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# Construction

March 1983

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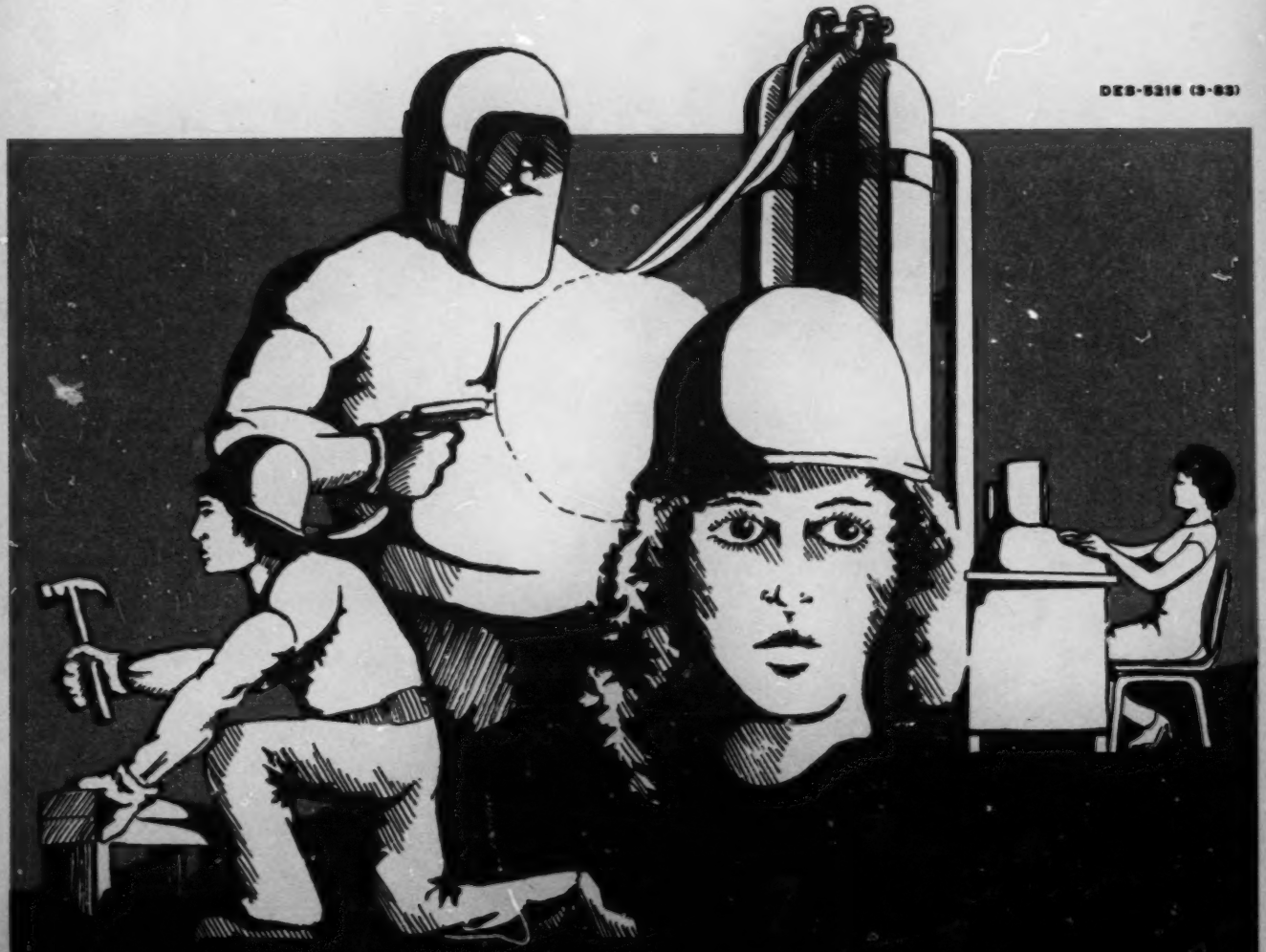


# ARIZONA OCCUPATIONAL PROFILE

A Labor Market Information Publication of the Arizona Department of Economic Security

UTAH
COCONINO
MOHAVE
NAVAJO
KINGMAN
FLAGSTAFF
APACHE
HOLBROOK
ST. JOHNS
CALIFORNIA
PRESCOTT
NEW MEXICO
YAVAPAI
PARKER
GILA
LA PAZ
PHOENIX
GLOBE
CLIFTON
GREENLEE
MARICOPA
FLORENCE
SAFFORD
YUMA
PINAL
GRAHAM
YUMA
TUCSON
PIMA
COCHISE
MEXICO
SANTA CRUZ
BISBEE
NOGALES
ARIZONA

# OCCUPATIONAL PROFILES

The value of current and accurate occupational employment information has long been recognized by job seekers, public and private administrators, and those involved in training, recruiting, and counseling. A major source of this information in Arizona is the Occupational Employment Statistics (OES) Program - a cooperative effort between Arizona and the U.S. Bureau of Labor Statistics.

This Occupational Profile is one in a series of publications produced from information developed by the Occupational Employment Statistics survey. These publications represent one of several occupational employment information delivery systems incorporating OES survey data. The survey is used to collect employment data, by county, for over 1,000 occupations in Arizona. From these surveys, which require the cooperation of the Arizona business community, current employment in the various occupations is determined, and from this an occupational outlook is formulated. The Occupational Profiles contain the survey findings and examine, individually, the industries of Arizona.

Surveyed industries include:

Mining
Construction
Manufacturing
Transportation, Communications, and Public Utilities
Trade
Finance, Insurance, and Real Estate
Services
Government

For further information, or to comment on any aspect of this program, please write to the address on the back cover.

# INDUSTRY INFORMATION

## INDUSTRY DESCRIPTION

Occupational employment estimates for the construction industry in Arizona are provided in this publication for the state and counties. Firms included represent those involved in new work, additions, alterations and repairs.

Three broad types of construction activity are recognized: namely, 1) building construction by general contractors or by operative builders, 2) general contractors not constructing buildings, and 3) construction by special trade contractors. Investment builders who build structures on their own account for rental are classified in the real estate industry, but separate establishments primarily engaged in construction for the investment builder are classified in this division.

General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other such projects. General contractors not constructing buildings (often referred to as heavy construction contractors) are primarily engaged in the construction of highways, streets, bridges, dams, and water projects.

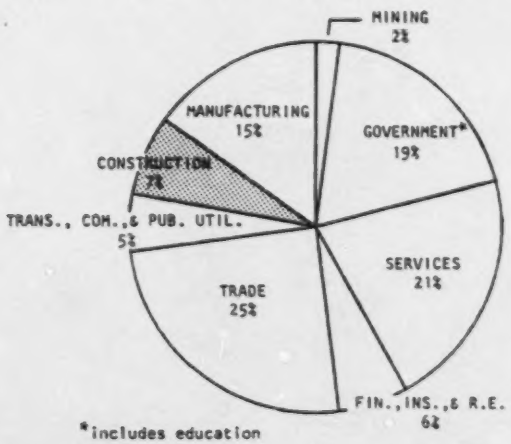
Special trade contractors are primarily engaged in specialized construction activities such as plumbing, painting, and electrical work.

A more detailed description of the types of firms surveyed is provided in the Standard Industrial Classification Manual[1] under codes 15, 16 and 17.

## INDUSTRY CHARACTERISTICS

Employment of workers earning a wage or salary in construction averaged 70,000 in 1981 - representing 7 percent of Arizona's more than 1 million

FIGURE 1: ARIZONA EMPLOYMENT BY INDUSTRY, 1981




[1]Office of Management and Budget, *Standard Industrial Classification Manual*, 1972 Edition, pp. 45-56.

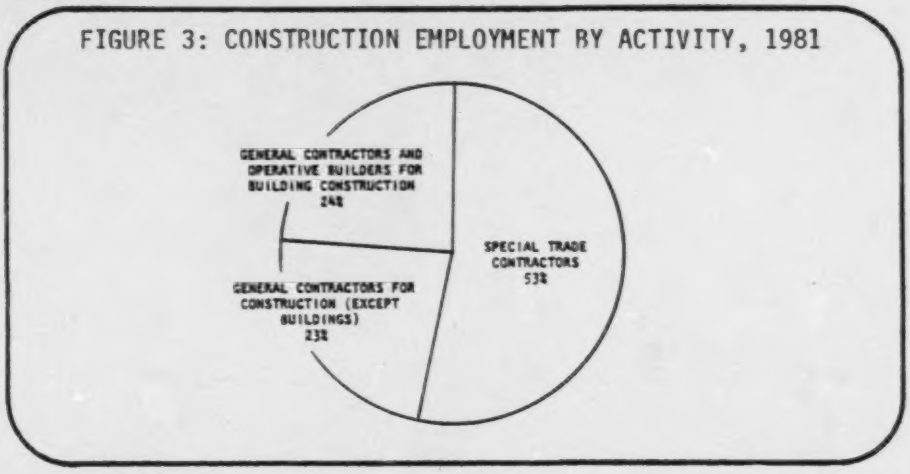
workers. One of every two construction workers in Arizona is a special trades contractor - most doing masonry, stonework, and plastering; plumbing, heating and air conditioning, and electrical work. Special trades contractors may work on subcontract from the general constractors or they may work directly for the owner.

FIGURE 2: SPECIAL TRADE CONSTRACTORS EARNING A WAGE OR SALARY, 1981

| TRADES | Employment 1981 |
|---|---|
| Masonry, Stonework & Plaster. | 8,225 |
| Plumbing, Heat., & Air. Cond. | 7,450 |
| Misc. Special Trades | 6,375 |
| Electrical Work | 5,700 |
| Concrete Work | 3,725 |
| Carpentering & Flooring | 2,800 |
| Roofing & Sheet Metal Work | 2,175 |
| Water Well Drilling | 325 |

The other half of Arizona's construction employment is made up of general contractors. Approximately half these workers are employed by general contractors and operative builders for building construction - primarily residential housing. Most of the remainder, who are not constructing buildings, are involved with street and highway construction.

FIGURE 3: CONSTRUCTION EMPLOYMENT BY ACTIVITY, 1981


GENERAL CONTRACTORS AND OPERATIVE BUILDERS FOR BUILDING CONSTRUCTION 24%
SPECIAL TRADE CONTRACTORS 53%
GENERAL CONTRACTORS FOR CONSTRUCTION (EXCEPT BUILDINGS) 23%

Construction employment is concentrated in metropolitan Phoenix (Maricopa County) and Tucson (Pima County). Ranking far behind are the Yuma (Yuma County), Flagstaff (Coconino County) and Prescott (Yavapai County) areas. Construction employment in Maricopa and Pima counties account for 68 and 18 percent of the state total, respectively, with the remaining 14 percent working in the "balance of state."

FIGURE 4: EMPLOYEES EARNING A WAGE OR SALARY IN CONSTRUCTION - JUNE 1981

| County | Firms | Employment |
|---|---|---|
| Apache | 50 | 725 |
| Cochise | 160 | 700 |
| Coconino | 230 | 1,500 |
| Gila | 100 | 325 |
| Graham/Greenlee | 50 | 325 |
| Maricopa | 4,110 | 51,650 |
| Mohave | 270 | 1,125 |
| Navajo | 150 | 725 |
| Pima | 1,350 | 14,075 |
| Pinal | 110 | 475 |
| Santa Cruz | 50 | 250 |
| Yavapai | 300 | 1,300 |
| Yuma | 200 | 2,600 |
| STATE | 7,130 | 75,800 |

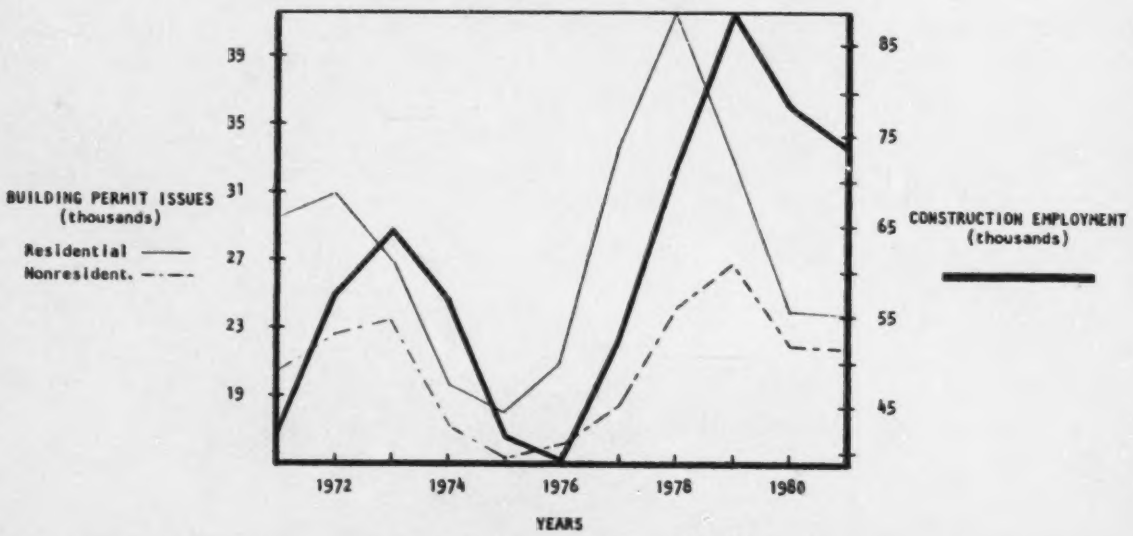
Construction firms are generally small - nearly 90 percent employ fewer than 20 workers (as compared to 75 percent for all industries). Those located in the state's two major metropolitan areas tend to be somewhat larger as a result of the location of regional offices and administrative functions.

## INDUSTRY TRENDS

The addition of many new people in a community generally means an immediate need for more housing, shopping centers, schools, highways and commercial, industrial and government buildings. Much of Arizona's construction activity is a result of the state's rapidly increasing population. As Arizona's population growth rate is greater than the nation's, the local construction industry is also relatively more prominent. In Arizona, the proportion of construction jobs to total employment is nearly 50% higher than the national ratio.

During the past decade, the value of construction work completed in the state quadrupled from about $1 billion to around $4 billion. Although much of this increased valuation is the result of inflation, employment also experienced strong growth - from 39,000 construction jobs in December 1970 to a peak of 90,000 in mid-1979. During this same period, 300,000 housing units were built in Phoenix and 90,000 in Tucson.

FIGURE 5: ARIZONA CONSTRUCTION PERMIT ISSUES AND EMPLOYMENT, 1971-1981




The industry, however, and especially homebuilding, was severely affected by the most recent economic downturn. Following the high level of activity in 1979, the decline in contract building in Arizona was significantly greater than the drop nationally. For the period 1979 to 1982, for example, housing starts declined 60 percent in Arizona as compared to 35 percent nationally. Suppressing demand in Arizona for new housing were affordability problems as a result of the cost of homes and high mortgage rates, a comparatively slow population growth, moderate employment expansion, and a sufficient inventory of housing available to forestall a severe shortage.

Employment of Arizona construction workers earning a wage or salary, as well as their share of total Arizona employment, continued its three-year decline as we entered 1983. Although industry employment will rebound, it is unlikely that construction will ever again provide nearly 1 of every 10 jobs in Arizona as it did in 1979. Expansion of manufacturing and service industries will continue to increase their shares of state employment at the expense of, among others, the construction industry. Nationally, one worker in twenty is in construction - a ratio that clearly suggests a long-term employment trend locally.

Due to poor economic conditions, the Arizona construction industry languished in 1981. Residential (single-family) activity declined, commercial activity experienced an increase, and industrial activity remained unchanged. Nearly 83,000 building permits were issued for construction activity in 1981 - off 4 percent from the previous year. Residential permits, which represent the bulk of the total, declined 6 percent. Increasing 43 percent over 1980, permit issues for commercial facilities in Arizona were bolstered by the construction of office buildings in Maricopa County. This activity was the result of the continued movement of regional offices into the Phoenix area and the expansion of local firms. Construction of retail establishments, on the other hand, declined as a result of poor sales and high interest rates.

As 1983 began to unfold, most analysts were predicting an imminent but slow recovery for the construction industry as the housing market was felt to be finally positioned for a turnaround. Primary evidence, for most, was the decline in mortgage interest rates. Although an extended trend was not assured, and the low rates of the 1970s were still but a memory, there were indications of a growing acceptance of higher interest rates. A survey conducted by the Arizona Real Estate Institute for Phoenix Magazine Publishing, Inc. found a "significant" level of acceptance of rates in the 13 to 14 percent range, whereas a rate of 12 percent was found acceptable in previous surveys.

Employment in construction is volatile, and depends on a myriad of factors, including population and real personal income growth, and money and capital market conditions. In the absence of continued improvement of mortgage rates, potential homebuyers will likely consider the variety of new mortgage instruments (some of which have received limited public acceptance) and a diminuation in the size of their dream house.

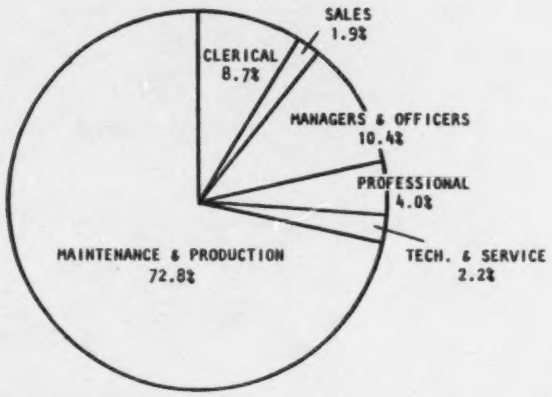
Whatever transpires, the increase in employment is not expected to be as great as the expansion in construction activity. Continued technological developments in construction methods will raise output per worker. An example is the use of prefabricated units such as preassembled outside walls and partitions that can be lifted into place in a single operation. Renewed expansion, however, will increase construction employment nearly 30 percent between 1981 and 1985. Increasing 12 percent from its 1981 level, Arizona's population is projected to top 3.1 million by 1985. Although this population growth does not equal the expansion rates of the past decade, it will provide added impetus for heightened construction activity.

# OCCUPATIONAL INFORMATION

## OCCUPATIONAL ANALYSIS

Led by carpenters, electricians, plumbers and other trades workers, construction is dominated by maintenance and production workers who represent nearly 3 of every 4 workers in the industry. Trailing a distant second, but representing the industry's largest single occupational

FIGURE 6: OCCUPATIONS IN CONSTRUCTION
MAY 1981




category are managers and officers - by definition, those who make policy, organize, direct, and/or directly supervise the work force or support personnel. Common to all firms, regardless of their construction activities, are clerical workers - representing the industry's third ranking occupational category. With employment of nearly 2,000 in 1981, secretaries represent the dominant clerical occupation, and are followed by bookkeepers with slightly more than 1,000 workers.

The reader is reminded that the scope of this study includes only those workers earning a wage or salary. It is estimated, however, that 1 in 5 construction craft workers is self-employed - most contracting with homeowners and businesses for small jobs. Self-employment is most common in paperhanging, painting, and floor covering work, although it is also found in other trades.

Although job openings can fluctuate greatly, depending on the level of construction activity, most of the industry's occupations will, over the long run, experience employment growth about equal to that of the average for all occupations. Increasing their share of construction employment, however, will be professional, technical and clerical personnel; while losing some of theirs - laborers, operatives and production workers.

Technological improvements and labor-saving devices and techniques will somewhat suppress employment growth of many maintenance and production occupations.

Through the 1980s, construction activity will increase in response to increasing demand for new housing and industrial plants, and as existing plants are renovated to make them more productive and energy efficient. According to the U.S. Department of Labor's Occupational Outlook Handbook[1], construction trades that will grow faster than the average for all occupations include bricklayers and stonemasons, cement masons and terrazzo workers, insulation workers, drywall installers and finishers, and tilesetters. Plasterers and stonemasons, however, will see employment growth that is somewhat slower. It should be remembered that although an occupation is growing rapidly, it may offer relatively few job

FIGURE 7: PREDICTED GROWTH OF CONSTRUCTION TRADES OCCUPATIONS THROUGH THE 1980s

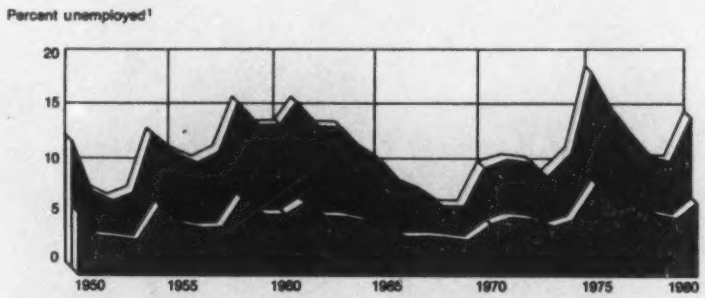
| Occupation | Growth Rate | Comments |
|---|---|---|
| Bricklayers | Faster than Average | Increased use as decorative work on building fronts and in lobbies and foyers; use in interior load bearing walls and prefab. brick panels. |
| Stonemasons | Slower than Average | Stone is relatively expensive. |
| Carpenters | Average | High replacement needs because of large number employed. |
| Cement Masons & Terrazzo Workers | Faster than Average | Increased use of concrete and prestressed columns; high replacement needs. |
| Drywall Installers & Finishers | Faster than Average | Continued use as replacement of plaster. |
| Electricians | Average | High replacement needs because of large number employed. |
| Floor Covering Installers | Average | Use of plywood rather than hardwood generally requires carpet or resilient floors, versatile materials. |
| Glaziers | Average | Limited job openings because of small employment. |
| Insulation Workers | Faster than Average | Increased energy consciousness. |
| Ironworkers | Average | |
| Painters & Paperhangers | Average | High replacement needs because of large number employed. |
| Plasterers | Slower than Average | Increased use of drywall in recent years. Insulating systems that use insulation board and troweled finishes likely to provide resurgence, however. |
| Plumbers & Pipefitters | Average | High replacement needs because of large number employed. |
| Roofers | Average | |
| Sheet Metal Workers | Average | |
| Tilesetters | Faster than Average | Increased use in hallways and recreation areas of homes and buildings - particularly in warm regions of country. |

[1]U.S. Department of Labor, *Occupational Outlook Handbook*, 1982-83 Edition, pp. 361-386.

opportunities because its total employment is comparatively limited. For example, tile setters, which are characterized as growing faster than average, number only 370 in Arizona, and will offer approximately 100 job openings between 1981 and 1985. Employment of carpenters, on the other hand, is more than 6,000 and, although growing at an average rate, the occupation will see nearly 3,000 openings for the same period.

Because construction trades often depend on one another - particularly on large projects - work delays or strikes in one trade can delay or stop the work in another. This, in addition to work stoppages caused by

FIGURE 8: NATIONAL UNEMPLOYMENT RATES
IN CONSTRUCTION AND ALL INDUSTRIES COMBINED




[1]Unemployment rates for wage and salary workers
Source: Bureau of Labor Statistics

inclement weather, boosts unemployment in the industry. Nationally, the unemployment rate in construction is generally more than twice the average for all industries.

Those employed in the various construction trades encounter varying degrees of success in weathering economic downturns and the inevitable periods of depressed construction activity. Many electricians, for example, are able to transfer to positions as maintenance electricians in industries that may not be as severely impacted. Construction workers seeking employment and registered at Arizona Job Service offices in May 1981 were dominated by construction laborers and also included, in ranking order, carpenters, building maintenance repairers, heavy equipment operators and welders.

The most recent depressed condition of the industry notwithstanding, construction employment will increase by more than 20,000 between 1981 and 1985, and will provide more than 30,000 opportunities for job seekers.

FIGURE 9: MOST FREQUENTLY REPORTED
OCCUPATIONS IN ARIZONA'S CONSTRUCTION INDUSTRY

| | Employment 1981 | Job Openings 1981-1985 |
|---|---|---|
| Managers & Officers | 7,879 | 3,430 |
| Carpenters | 6,272 | 2,691 |
| Electricians | 4,937 | 1,891 |
| Plumbers &/or Pipefitters | 3,394 | 1,295 |
| Heavy Equipment Operators | 3,165 | 1,431 |
| Cement Masons | 2,124 | 688 |
| Secretaries | 1,896 | 1,013 |
| Truck Drivers | 1,842 | 751 |
| Painters, Maintenance | 1,779 | 603 |
| Sheet Metal Workers | 1,689 | 448 |
| Bricklayers | 1,570 | 452 |
| Supervisors, Nonworking | 1,548 | 639 |
| General Clerks, Office | 1,406 | 679 |
| Cost Estimators | 1,316 | 684 |
| Mechanics, Refrigeration/Air Conditioning | 1,261 | 346 |
| Roofers | 1,250 | 312 |
| Welders & Flamecutters | 1,146 | 593 |
| Bookkeepers, Hand | 1,118 | 505 |
| Dry-Wall Applicators | 1,044 | 252 |
| Tapers | 1,003 | 336 |
| Bricklayer Helpers | 820 | 245 |
| Sales Reps., Agents & Associates (Exc. Real Est.) | 757 | 295 |
| Carpenter Helpers | 756 | 286 |
| Electrician Helpers | 683 | 223 |
| Structural-Steel Workers | 675 | 165 |
| Plasterers | 675 | 165 |
| Plumber &/or Pipefitter Helpers | 614 | 198 |
| Pipelayers | 577 | 320 |
| Sales Reps., Agents & Associates - Real Estate | 563 | 318 |
| Cement Mason Helpers | 529 | 181 |
| Mechanics, Automotive | 502 | 231 |
| Asbestos & Insulation Workers | 488 | 99 |
| Janitors, Porters & Cleaners | 485 | 261 |
| Stock Clerks | 433 | 144 |
| Accountants & Auditors | 414 | 200 |
| Mechanics, Maintenance | 414 | 134 |

## OCCUPATIONAL STRUCTURE

The following thirteen tables provide employment estimates and projected employment and job openings for the counties and the state. Graham and Greenlee counties have been combined due to their close proximity, similar economies, and size. A table for La Paz County is not included as the survey was conducted prior to this county's creation.

When using the data, please note the following:

1) The data reflect full and part-time wage and salary employment only, and do not include self-employed or unpaid family workers.

2) Total job openings represent the number of openings due to growth of the industry and separations from the labor force. They do not account for labor turnover, i.e., openings created when a worker changes jobs, leaving the job to be filled by someone else. These vacancies are often the largest source of job openings.

3) The projection technique does not possess the degree of accuracy that may be implied by small employment and demand figures.

4) To eliminate the possible disclosure of confidential employer information, occupations have been added to the appropriate "all other" or residual category if: less than three firms reported a single occupation; one firm reported more than 50 percent of the occupational estimate; two firms combined reported more than 75 percent of the occupational estimate. In certain cases, releases have been obtained from large employers to waive the confidentiality criteria.

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

STATEWIDE

| | Estimated 1981 Employment | Percent of Total 1981 Employment | Projected 1985 Employment | Total Job Openings 1981-1985 |
|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 7,879 | 10.4 | 10,111 | 3,430 |
| TOTAL PROFESSIONAL WORKERS | 2,995 | 4.0 | 3,990 | 1,493 |
| Civil Engineers | 313 | .4 | 430 | 162 |
| Electrical & Electronic Engineers | 275 | .4 | 389 | 132 |
| Mechanical Engineers | 292 | .4 | 410 | 137 |
| Safety Engineers | 22 | .0 | 31 | 11 |
| All Other Engineers | 67 | .1 | 97 | 35 |
| Systems Analysts, EDP | 21 | .0 | 30 | 10 |
| Purchasing Agents &/or Buyers | 159 | .2 | 201 | 64 |
| Accountants & Auditors | 414 | .5 | 548 | 200 |
| Cost Estimators | 1,316 | 1.7 | 1,697 | 684 |
| Personnel & Labor Relations Specialists | 29 | .0 | 41 | 16 |
| All Other Professional Workers | 87 | .1 | 116 | 42 |
| TOTAL TECHNICAL WORKERS | 566 | .7 | 737 | 220 |
| Computer Programmers | 57 | .1 | 79 | 26 |
| Drafters | 259 | .3 | 321 | 86 |
| Electrical & Electronic Technicians | 57 | .1 | 70 | 16 |
| Surveyors | 102 | .1 | 146 | 51 |
| Mechanical Engineering Technicians | 9 | .0 | 14 | 5 |
| Civil Engineering Technicians | 29 | .0 | 33 | 9 |
| All Other Engineering Technicians | 40 | .1 | 57 | 22 |
| All Other Technicians | 13 | .0 | 17 | 5 |
| TOTAL SERVICE WORKERS | 1,147 | 1.5 | 1,578 | 633 |
| Janitors, Porters & Cleaners | 485 | .6 | 651 | 261 |
| Guards & Doorkeepers | 171 | .2 | 242 | 83 |
| Food Service Workers (Exc. Cashiers) | 345 | .5 | 490 | 212 |
| Supervisors, Nonworking-Service | 30 | .0 | 36 | 9 |
| All Other Service Workers | 116 | .2 | 159 | 68 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 55,136 | 72.7 | 70,041 | 20,754 |
| Mechanics, Automotive | 502 | .7 | 683 | 231 |
| Mechanics, Diesel | 165 | .2 | 236 | 86 |
| Mechanics, Engineering-Equipment | 277 | .4 | 353 | 108 |
| Mechanics, Maintenance | 414 | .5 | 508 | 134 |
| Mechanics, Refrigeration/Air Conditioning | 1,261 | 1.7 | 1,489 | 346 |
| All Other Mechanics & Repairers | 45 | .1 | 54 | 13 |
| Truck Drivers | 1,842 | 2.4 | 2,425 | 751 |
| Air-Hammer Operators | 132 | .2 | 198 | 86 |
| Asbestos & Insulation Workers | 488 | .6 | 566 | 99 |
| Asphalt Heater Tenders | 17 | .0 | 24 | 8 |
| Blasters | 9 | .0 | 14 | 6 |
| Boilermakers | 142 | .2 | 195 | 71 |
| Bricklayers | 1,570 | 2.1 | 1,891 | 452 |
| Cabinetmakers | 148 | .2 | 181 | 46 |
| Carpet Gutters &/or Layers | 212 | .3 | 248 | 47 |
| Carpenters | 6,272 | 8.3 | 8,124 | 2,691 |
| Cement Masons | 2,124 | 2.8 | 2,650 | 688 |
| Concrete-Mixer Operators | 100 | .1 | 120 | 35 |
| Concrete-Wall Grinder Operators | 14 | .0 | 17 | 4 |
| Concrete Rubbers | 61 | .1 | 74 | 17 |
| Crane, Derrick & Hoist Operators | 107 | .1 | 139 | 44 |
| Delivery & Route Workers | 48 | .1 | 58 | 14 |
| Drillers, Machine | 53 | .1 | 65 | 19 |
| Dry-Wall Applicators | 1,044 | 1.4 | 1,244 | 252 |
| Electricians | 4,937 | 6.5 | 6,326 | 1,891 |
| Fence Erectors | 337 | .4 | 401 | 103 |
| Floor Sanding Machine Operators | 17 | .0 | 20 | 4 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

STATEWIDE (CONTD.)

| | Estimated 1981 Employment | Percent of Total 1981 Employment | Projected 1985 Employment | Total Job Openings 1981-1985 |
|---|---|---|---|---|
| Supervisors, Nonworking | 1,548 | 2.0 | 2,000 | 639 |
| Form Setters, Metal Road-Form | 224 | .3 | 271 | 68 |
| Furnace Installers & Repairers | 48 | .1 | 56 | 14 |
| Glaziers | 387 | .5 | 459 | 109 |
| Heavy Equipment Operators | 3,165 | 4.2 | 4,263 | 1,431 |
| Riggers | 9 | .0 | 10 | 2 |
| Industrial Truck Operators | 36 | .0 | 45 | 13 |
| Inspectors | 215 | .3 | 292 | 113 |
| Lathers | 410 | .5 | 492 | 112 |
| Line Installers-Repairers | 123 | .2 | 141 | 31 |
| Machinists | 20 | .0 | 25 | 7 |
| Maintenance Repairers, General Utility | 134 | .2 | 172 | 52 |
| Metal Fabricators (Exc. Sheet Metal) | 267 | .4 | 336 | 90 |
| Millwrights | 231 | .3 | 313 | 114 |
| Oilers | 115 | .2 | 169 | 69 |
| Painters, Maintenance | 1,779 | 2.3 | 2,152 | 603 |
| Paperhangers | 34 | .0 | 40 | 8 |
| Pipelayers | 577 | .8 | 821 | 320 |
| Plasterers | 675 | .9 | 802 | 165 |
| Plumbers &/or Pipefitters | 3,394 | 4.5 | 4,331 | 1,295 |
| Reinforcing-Iron Workers | 394 | .5 | 510 | 163 |
| Roofers | 1,250 | 1.7 | 1,495 | 312 |
| Sheet Metal Workers | 1,689 | 2.2 | 2,016 | 448 |
| Stone Masons | 129 | .2 | 161 | 43 |
| Layout Workers, Structural-Steel | 60 | .1 | 74 | 19 |
| Structural-Steel Workers | 675 | .9 | 866 | 246 |
| Tapers | 1,003 | 1.3 | 1,221 | 336 |
| Tile Setters | 374 | .5 | 447 | 104 |
| Welders & Flamecutters | 1,146 | 1.5 | 1,596 | 593 |
| Surveyor Helpers | 23 | .0 | 28 | 8 |
| Asphalt-Mixing-Machine Tenders | 41 | .1 | 56 | 20 |
| Asphalt-Plant Drier Operators | 17 | .0 | 24 | 10 |
| Asphalt-Plant Operators | 101 | .1 | 150 | 62 |
| Asphalt Rakers | 235 | .3 | 303 | 99 |
| Mixers, Stone, Clay, Glass & Related Products | 33 | .0 | 42 | 11 |
| Ceiling Tile Installers &/or Floor Layers | 190 | .3 | 231 | 52 |
| Terrazo Workers | 59 | .1 | 68 | 13 |
| Asbestos & Insulation Worker Helpers | 27 | .0 | 34 | 10 |
| Bricklayer Helpers | 820 | 1.1 | 970 | 245 |
| Carpenter Helpers | 756 | 1.0 | 969 | 286 |
| Cement Mason Helpers | 529 | .7 | 646 | 181 |
| Electrician Helpers | 683 | .9 | 827 | 223 |
| Painter Helpers | 112 | .1 | 138 | 39 |
| Plasterer Helpers | 181 | .2 | 214 | 54 |
| Plumber &/or Pipefitter Helpers | 614 | .8 | 740 | 198 |
| Roofer Helpers | 226 | .3 | 275 | 75 |
| Stone Mason Helpers | 80 | .1 | 94 | 23 |
| Tile Setter Helpers | 164 | .2 | 194 | 49 |
| Cabinetmaker Helpers | 34 | .0 | 41 | 10 |
| All Other Helpers, Skilled Trades | 96 | .1 | 122 | 40 |
| All Other Skilled Craft Workers | 359 | .5 | 476 | 152 |
| All Other Operatives & Semiskilled Workers | 927 | 1.2 | 1,172 | 357 |
| All Other Laborers & Unskilled Workers | 6,380 | 8.4 | 8,348 | 2,772 |
| TOTAL CLERICAL WORKERS | 6,610 | 8.7 | 8,432 | 3,268 |
| Bookkeeping &/or Billing Machine Operators | 28 | .0 | 32 | 9 |
| Computer Operators | 71 | .1 | 89 | 28 |
| Keypunch Operators | 30 | .0 | 40 | 17 |
| All Other Office Machine Operators | 2 | .0 | 3 | 2 |
| Accounting Clerks | 400 | .5 | 525 | 210 |
| Bookkeepers, Hand | 1,118 | 1.5 | 1,393 | 505 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

STATEWIDE (CONT'D.)

| | Estimated 1981 Employment | Percent of Total 1981 Employment | Projected 1985 Employment | Total Job Openings 1981-1985 |
|---|---|---|---|---|
| Cashiers | 59 | .1 | 75 | 29 |
| File Clerks | 57 | .1 | 78 | 38 |
| General Clerks, Office | 1,406 | 1.9 | 1,766 | 679 |
| Mail Clerks | 32 | .0 | 44 | 19 |
| Order Clerks | 19 | .0 | 23 | 9 |
| Payroll &/or Timekeeping Clerks | 350 | .0 | 464 | 182 |
| Personnel Clerks | 18 | .0 | 26 | 13 |
| Procurement Clerks | 17 | .0 | 23 | 8 |
| Receptionists | 120 | .2 | 169 | 83 |
| Secretaries | 1,896 | 2.5 | 2,448 | 1,013 |
| Switchboard Operators | 28 | .0 | 36 | 16 |
| Switchboard Operators-Receptionists | 68 | .1 | 89 | 40 |
| Typists | 211 | .3 | 274 | 121 |
| Clerical Supervisors | 34 | .0 | 44 | 15 |
| All Other Office Clerical Workers | 46 | .1 | 61 | 26 |
| Production Clerks &/or Coordinators | 59 | .1 | 70 | 19 |
| Shipping &/or Receiving Clerks | 42 | .1 | 55 | 18 |
| Weighers, Record Keeping | 7 | .0 | 8 | 3 |
| Stock Clerks | 433 | .6 | 524 | 144 |
| Dispatchers | 45 | .1 | 55 | 15 |
| All Other Plant Clerical Workers | 14 | .0 | 18 | 7 |
| TOTAL SALES WORKERS | 1,463 | 1.9 | 1,852 | 664 |
| Sales Reps., Agents & Associates-Real Estate | 563 | .7 | 753 | 318 |
| All Other Sales Reps., Agents & Associates | 757 | 1.0 | 924 | 295 |
| Sales Clerks (Exc. Cashiers) | 143 | .2 | 175 | 51 |
| TOTAL ALL OCCUPATIONS | 75,796 | 100.0 | 96,741 | 30,462 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL WORKERS

All Other Engineers
Nuclear Engineers

MAINTENANCE & PRODUCTION WORKERS

All Other Helpers, Skilled Trades
Paperhanger Helpers
Terrazo Worker Helpers

All Other Skilled Craft Workers
Conduit Mechanics

All Other Operatives & Semiskilled Workers
Blueprint Machine Operators

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

APACHE COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 46 | 68 | 22 | 7 | 29 |
| TOTAL PROFESSIONAL WORKERS | 52 | 81 | 29 | 9 | 38 |
| Accountants & Auditors | 8 | 14 | 6 | 1 | 13 |
| Personnel & Labor Relations Specialists | 7 | 10 | 3 | 1 | 4 |
| All Other Professional Workers | 37 | 57 | 20 | 7 | 27 |
| TOTAL TECHNICAL WORKERS | 9 | 18 | 9 | 0 | 9 |
| TOTAL SERVICE WORKERS | 2 | 2 | 0 | 0 | 0 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 526 | 969 | 443 | 66 | 509 |
| Truck Drivers | 20 | 40 | 20 | 2 | 22 |
| Carpenters | 16 | 20 | 4 | 2 | 6 |
| Cement Masons | 8 | 15 | 7 | 1 | 8 |
| Electricians | 55 | 66 | 11 | 5 | 16 |
| Heavy Equipment Operators | 72 | 145 | 73 | 8 | 81 |
| Plumbers &/or Pipefitters | 5 | 8 | 3 | 1 | 4 |
| All Other Helpers, Skilled Trades | 25 | 44 | 19 | 3 | 22 |
| All Other Skilled Craft Workers | 73 | 129 | 56 | 8 | 64 |
| All Other Operatives & Semiskilled Workers | 43 | 79 | 36 | 6 | 42 |
| All Other Laborers & Unskilled Workers | 209 | 423 | 214 | 30 | 244 |
| TOTAL CLERICAL WORKERS | 90 | 143 | 53 | 19 | 72 |
| All Office Machine Operators | 2 | 4 | 2 | 0 | 2 |
| General Clerks, Office | 10 | 12 | 2 | 2 | 4 |
| Payroll &/or Timekeeping Clerks | 19 | 38 | 19 | 4 | 23 |
| Secretaries | 13 | 17 | 4 | 3 | 7 |
| All Other Office Clerical Workers | 35 | 52 | 17 | 9 | 26 |
| Stock Clerks | 7 | 13 | 6 | 1 | 7 |
| All Other Plant Clerical Workers | 4 | 7 | 3 | 0 | 3 |
| TOTAL ALL OCCUPATIONS | 725 | 1,281 | 556 | 101 | 657 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
- Civil Engineers
- Purchasing Agents &/or Buyers
- Cost Estimators

TECHNICAL WORKERS

- Surveyors
- Mechanical Engineering Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Helpers, Skilled Trades
- Bricklayer Helpers
- Carpenter Helpers
- Cement Mason Helpers
- Electrician Helpers
- Painter Helpers
- Plumber &/or Pipefitter Helpers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Skilled Craft Workers
- Mechanics, Automotive
- Mechanics, Diesel
- Bricklayers
- Supervisors, Nonworking
- Maintenance Repairers, General Utility
- Metal Fabricators
- Millwrights

All Other Operatives & Semiskilled Workers
- Inspectors
- Pipelayers
- Reinforcing-Iron Workers
- Surveyor Helpers
- Asphalt-Mixing-Machine Tenders
- Asphalt Rakers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

APACHE COUNTY (CONTD.)

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Laborers & Unskilled Workers
Air-Hammer Operators
Oilers
Painters, Maintenance

CLERICAL WORKERS

All Other Office Clerical Workers
Accounting Clerks
Bookkeepers, Hand

CLERICAL WORKERS (CONTD.)

File Clerks
Personnel Clerks
Procurement Clerks
Switchboard Operators-Receptionists
Typists
Clerical Supervisors

All Other Plant Clerical Workers
Production Clerks &/or Coordinators
Shipping &/or Receiving Clerks

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCHISE COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 73 | 85 | 12 | 11 | 23 |
| TOTAL PROFESSIONAL WORKERS | 14 | 15 | 1 | 2 | 3 |
| Cost Estimators | 9 | 10 | 1 | 2 | 3 |
| All Other Professional Workers | 5 | 5 | 0 | 0 | 0 |
| TOTAL TECHNICAL WORKERS | 3 | 3 | 0 | 0 | 0 |
| TOTAL SERVICE WORKERS | 6 | 7 | 1 | 1 | 2 |
| Janitors, Porters & Cleaners | 6 | 7 | 1 | 1 | 2 |
| MAINTENANCE & PRODUCTION WORKERS | 505 | 580 | 75 | 49 | 124 |
| Mechanics, Maintenance | 7 | 8 | 1 | 1 | 2 |
| Mechanics, Refrigeration/Air Conditioning | 19 | 21 | 2 | 2 | 4 |
| Truck Drivers | 17 | 19 | 2 | 1 | 3 |
| Bricklayers | 19 | 22 | 3 | 2 | 5 |
| Carpenters | 71 | 85 | 14 | 9 | 23 |
| Cement Masons | 21 | 24 | 3 | 1 | 4 |
| Dry-Wall Applicators | 12 | 14 | 2 | 1 | 3 |
| Electricians | 60 | 66 | 6 | 6 | 12 |
| Fence Erectors | 27 | 30 | 3 | 3 | 6 |
| Supervisors, Nonworking | 5 | 6 | 1 | 1 | 2 |
| Heavy Equipment Operators | 13 | 16 | 3 | 1 | 4 |
| Painters, Maintenance | 26 | 29 | 3 | 3 | 6 |
| Plumbers &/or Pipefitters | 13 | 15 | 2 | 1 | 3 |
| Roofers | 13 | 15 | 2 | 1 | 3 |
| Sheet Metal Workers | 17 | 19 | 2 | 1 | 3 |
| Tapers | 8 | 9 | 1 | 1 | 2 |
| Welders & Flamecutters | 4 | 5 | 1 | 0 | 1 |
| Bricklayer Helpers | 6 | 7 | 1 | 1 | 2 |
| Carpenter Helpers | 7 | 8 | 1 | 1 | 2 |
| Cement Mason Helpers | 7 | 8 | 1 | 1 | 2 |
| Electrician Helpers | 15 | 17 | 2 | 2 | 4 |
| Plumber Helpers | 13 | 15 | 2 | 1 | 3 |
| Roofer Helpers | 6 | 7 | 1 | 1 | 2 |
| All Other Helpers, Skilled Trades | 3 | 3 | 0 | 0 | 0 |
| All Other Skilled Craft Workers | 28 | 31 | 3 | 1 | 4 |
| All Other Semiskilled Workers | 30 | 33 | 3 | 2 | 5 |
| All Other Laborers & Unskilled Workers | 38 | 48 | 10 | 4 | 14 |
| TOTAL CLERICAL WORKERS | 81 | 92 | 11 | 17 | 28 |
| Accounting Clerks | 6 | 7 | 1 | 1 | 2 |
| Bookkeepers, Hand | 12 | 14 | 2 | 2 | 4 |
| General Clerks, Office | 21 | 24 | 3 | 5 | 8 |
| Secretaries | 31 | 35 | 4 | 7 | 11 |
| All Other Office Clerical Workers | 4 | 4 | 0 | 1 | 1 |
| Stock Clerks | 7 | 8 | 1 | 1 | 2 |
| TOTAL SALES WORKERS | 22 | 24 | 2 | 3 | 5 |
| TOTAL ALL OCCUPATIONS | 704 | 806 | 102 | 83 | 185 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Skilled Craft Workers
Mechanics, Automotive
Cabinetmakers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

Drillers, Machine
Furnace Installers & Repairers
Glaziers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCHISE COUNTY (CONTD.)

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

Line Installers-Repairers
Machinists
Maintenance Repairers, General Utility

All Other Operatives & Semiskilled Workers
Carpet Cutters &/or Layers
Concrete-Wall Grinder Operators
Crane, Derrick & Hoist Operators
Form Setters, Metal Road-Form
Industrial Truck Drivers
Pipelayers
Reinforcing-Iron Workers

SALES WORKERS

Sales Reps., Agents & Associates-Real Estate
All Other Sales Reps., Agents & Associates
Sales Clerks (Exc. Cashiers)

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCONINO COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 122 | 161 | 39 | 18 | 57 |
| TOTAL PROFESSIONAL WORKERS | 25 | 35 | 10 | 5 | 15 |
| All Engineers | 1 | 1 | 0 | 0 | 0 |
| Accountants & Auditors | 5 | 8 | 3 | 1 | 4 |
| Cost Estimators | 13 | 19 | 6 | 3 | 9 |
| All Other Professional Workers | 6 | 7 | 1 | 1 | 2 |
| TOTAL TECHNICAL WORKERS | 8 | 10 | 2 | 1 | 3 |
| Drafters | 7 | 9 | 2 | 1 | 3 |
| All Other Technical Workers | 1 | 1 | 0 | 0 | 0 |
| TOTAL SERVICE WORKERS | 51 | 63 | 12 | 9 | 21 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 1,175 | 1,576 | 401 | 123 | 524 |
| Mechanics, Refrigeration/Air Conditioning | 14 | 16 | 2 | 1 | 3 |
| All Other Mechanics & Repairers | 20 | 31 | 11 | 1 | 12 |
| Truck Drivers | 76 | 118 | 42 | 6 | 48 |
| Bricklayers | 41 | 49 | 8 | 3 | 11 |
| Carpenters | 111 | 137 | 26 | 15 | 41 |
| Cement Masons | 51 | 62 | 11 | 4 | 15 |
| Dry-Wall Applicators | 17 | 20 | 3 | 1 | 4 |
| Electricians | 36 | 42 | 6 | 4 | 10 |
| Supervisors, Nonworking | 28 | 37 | 9 | 3 | 12 |
| Heavy Equipment Operators | 131 | 209 | 78 | 13 | 91 |
| Painters, Maintenance | 35 | 42 | 7 | 4 | 11 |
| Plumbers &/or Pipefitters | 27 | 31 | 4 | 3 | 7 |
| Roofers | 24 | 28 | 4 | 1 | 5 |
| Sheet Metal Workers | 16 | 19 | 3 | 1 | 4 |
| Welders & Flamecutters | 12 | 15 | 3 | 1 | 4 |
| Bricklayer Helpers | 11 | 13 | 2 | 1 | 3 |
| Carpenter Helpers | 19 | 23 | 4 | 2 | 6 |
| Cement Mason Helpers | 12 | 14 | 2 | 1 | 3 |
| Plumber &/or Pipefitter Helpers | 5 | 7 | 2 | 1 | 3 |
| All Other Helpers, Skilled Trades | 26 | 30 | 4 | 2 | 6 |
| All Other Skilled Craft Workers | 87 | 104 | 17 | 7 | 24 |
| All Other Operatives & Semiskilled Workers | 62 | 78 | 16 | 8 | 24 |
| All Other Laborers & Unskilled Workers | 314 | 451 | 137 | 40 | 177 |
| TOTAL CLERICAL WORKERS | 115 | 142 | 27 | 24 | 51 |
| Bookkeepers, Hand | 35 | 42 | 7 | 7 | 14 |
| General Clerks, Office | 17 | 20 | 3 | 4 | 7 |
| Payroll &/or Timekeeping Clerks | 16 | 22 | 6 | 3 | 9 |
| Secretaries | 28 | 35 | 7 | 7 | 14 |
| All Other Office Clerical Workers | 15 | 19 | 4 | 3 | 7 |
| All Plant Clerical Workers | 4 | 4 | 0 | 0 | 0 |
| TOTAL SALES WORKERS | 10 | 12 | 2 | 2 | 4 |
| Sales Reps., Agents & Associates-Real Estate | 5 | 6 | 1 | 1 | 2 |
| All Other Sales Reps., Agents & Associates | 5 | 6 | 1 | 1 | 2 |
| TOTAL ALL OCCUPATIONS | 1,506 | 1,999 | 493 | 182 | 675 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

SERVICE WORKERS

Janitors, Porters & Cleaners
Food Service Workers

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Mechanics, Automotive

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCONINO COUNTY (CONTD.)

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

Mechanics, Diesel
Mechanics, Engineering-Equipment
Mechanics, Maintenance

All Other Helpers, Skilled Trades
Electrician Helpers
Roofer Helpers
Stone Mason Helpers
Tile Setter Helpers

All Other Skilled Craft Workers
Cabinetmakers
Drillers, Machine
Glaziers
Line Installers-Repairers
Machinists
Maintenance Repairers, General Utility
Metal Fabricators (Exc. Sheet Metal)

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

Pipelayers
Stone Masons
Layout Workers, Structural-Steel
Structural-Steel Workers
Tile Setters
Ceiling Tile Installers &/or Floor Layers

All Other Operatives & Semiskilled Workers
Concrete-Mixer Operators
Delivery & Route Workers
Inspectors
Reinforcing-Iron Workers
Tapers
Asphalt Rakers

All Other Laborers & Unskilled Workers
Air-Hammer Operators

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

GILA COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 18 | 19 | 1 | 3 | 4 |
| TOTAL PROFESSIONAL WORKERS | 14 | 16 | 2 | 2 | 4 |
| Cost Estimators | 9 | 11 | 2 | 2 | 4 |
| All Other Professional Workers | 5 | 5 | 0 | 0 | 0 |
| TOTAL TECHNICAL WORKERS | 1 | 1 | 0 | 0 | 0 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 275 | 302 | 27 | 24 | 51 |
| Truck Drivers | 22 | 26 | 4 | 2 | 6 |
| Carpenters | 34 | 34 | 0 | 4 | 4 |
| Cement Masons | 17 | 17 | 0 | 1 | 1 |
| Sheet Metal Workers | 8 | 9 | 1 | 1 | 2 |
| All Helpers, Skilled Trades | 13 | 14 | 1 | 0 | 1 |
| All Other Skilled Craft Workers | 79 | 87 | 8 | 5 | 13 |
| All Other Operatives & Semiskilled Workers | 44 | 54 | 10 | 4 | 14 |
| All Other Laborers & Unskilled Workers | 58 | 61 | 3 | 7 | 10 |
| TOTAL CLERICAL WORKERS | 22 | 25 | 3 | 5 | 8 |
| General Clerks | 9 | 10 | 1 | 2 | 3 |
| Secretaries | 6 | 8 | 2 | 1 | 3 |
| All Other Office Clerical Workers | 7 | 7 | 0 | 2 | 2 |
| TOTAL ALL OCCUPATIONS | 330 | 363 | 33 | 34 | 67 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Helpers, Skilled Trades
- Carpenter Helpers
- Cement Mason Helpers
- Painter Helpers
- Roofer Helpers

All Other Skilled Craft Workers
- Mechanics, Diesel
- Mechanics, Refrigeration/Air Conditioning
- Bricklayers
- Electricians
- Supervisors, Nonworking
- Furnace Installers & Repairers, Hot Air
- Millwrights
- Plumbers &/or Pipefitters
- Structural-Steel Workers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Operatives & Semiskilled Workers
- Carpet Cutters &/or Layers
- Dry-Wall Applicators
- Heavy Equipment Operators
- Roofers
- Tapers
- Plumber &/or Pipefitter Helpers

All Other Laborers & Unskilled Workers
- Painters, Maintenance

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

GRAHAM AND GREENLEE COUNTIES

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 26 | 31 | 5 | 4 | 9 |
| TOTAL PROFESSIONAL WORKERS | 1 | 1 | 0 | 0 | 0 |
| TOTAL TECHNICAL WORKERS | 2 | 2 | 0 | 0 | 0 |
| TOTAL SERVICE WORKERS | 6 | 7 | 1 | 1 | 2 |
| Janitors, Porters & Cleaners | 6 | 7 | 1 | 1 | 2 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 270 | 322 | 52 | 28 | 80 |
| Truck Drivers | 12 | 15 | 3 | 1 | 4 |
| Carpenters | 16 | 19 | 3 | 2 | 5 |
| Cement Masons | 11 | 13 | 2 | 1 | 3 |
| Supervisors, Nonworking | 5 | 6 | 1 | 1 | 2 |
| Heavy Equipment Operators | 43 | 51 | 8 | 3 | 11 |
| Welders & Flamecutters | 5 | 6 | 1 | 1 | 2 |
| Carpenter Helpers | 7 | 9 | 2 | 1 | 3 |
| All Other Helpers, Skilled Trades | 13 | 15 | 2 | 2 | 4 |
| All Other Skilled Craft Workers | 100 | 119 | 19 | 8 | 27 |
| All Other Semiskilled Workers | 17 | 19 | 2 | 2 | 4 |
| All Other Laborers & Unskilled Workers | 41 | 50 | 9 | 6 | 15 |
| TOTAL CLERICAL WORKERS | 17 | 20 | 3 | 2 | 5 |
| Bookkeepers, Hand | 4 | 5 | 1 | 1 | 2 |
| General Clerks, Office | 6 | 7 | 1 | 1 | 2 |
| All Other Office Clerical Workers | 6 | 7 | 1 | 0 | 1 |
| All Plant Clerical Workers | 1 | 1 | 0 | 0 | 0 |
| TOTAL SALES WORKERS | 8 | 9 | 1 | 1 | 2 |
| All Sales Reps., Agents & Associates | 8 | 9 | 1 | 1 | 2 |
| TOTAL ALL OCCUPATIONS | 330 | 392 | 62 | 36 | 98 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Helpers, Skilled Trades
- Bricklayer Helpers
- Cement Mason Helpers
- Roofer Helpers

All Other Skilled Craft Workers
- Mechanics, Automotive
- Mechanics, Diesel
- Mechanics, Engineering-Equipment
- Mechanics, Maintenance
- Mechanics, Refrigeration &/or Air Conditioning
- Boilermakers
- Bricklayers
- Cabinetmakers
- Drillers, Machine
- Electricians
- Plumbers &/or Pipefitters
- Sheet Metal Workers
- Structural-Steel Workers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

- Tile Setters
- Asphalt-Plant Operators
- Ceiling Tile Installers &/or Floor Layers
- Millwrights

All Other Operatives & Semiskilled Workers
- Carpet Cutters &/or Layers
- Crane, Derrick & Hoist Operators
- Pipelayers
- Roofers
- Asphalt Rakers

CLERICAL WORKERS

All Other Office Clerical Workers
- Payroll &/or Timekeeping Clerks
- Clerical Supervisors
- Secretaries

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MARICOPA COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 5,407 | 6,994 | 1,587 | 812 | 2,399 |
| TOTAL PROFESSIONAL WORKERS | 2,371 | 3,201 | 830 | 373 | 1,203 |
| Civil Engineers | 266 | 375 | 109 | 38 | 147 |
| Electrical & Electronic Engineers | 269 | 381 | 112 | 17 | 129 |
| Mechanical Engineers | 276 | 390 | 114 | 18 | 132 |
| Safety Engineers | 19 | 27 | 8 | 2 | 10 |
| All Other Engineers | 67 | 97 | 30 | 5 | 35 |
| Systems Analysts, EDP | 20 | 29 | 9 | 1 | 10 |
| Purchasing Agents &/or Buyers | 119 | 151 | 32 | 16 | 48 |
| Accountants & Auditors | 301 | 404 | 103 | 47 | 150 |
| Cost Estimators | 962 | 1,246 | 284 | 218 | 502 |
| Personnel & Labor Relations Specialists | 21 | 29 | 8 | 3 | 11 |
| All Other Professional Workers | 51 | 72 | 21 | 8 | 29 |
| TOTAL TECHNICAL WORKERS | 388 | 515 | 127 | 31 | 158 |
| Computer Programmers | 52 | 74 | 22 | 3 | 25 |
| Drafters | 170 | 213 | 43 | 14 | 57 |
| Electrical & Electronic Technicians | 33 | 37 | 4 | 2 | 6 |
| Surveyors | 79 | 114 | 35 | 6 | 41 |
| All Other Engineering Technicians | 44 | 63 | 19 | 5 | 24 |
| All Other Technicians | 10 | 14 | 4 | 1 | 5 |
| TOTAL SERVICE WORKERS | 951 | 1,340 | 389 | 166 | 555 |
| Janitors, Porters and Cleaners | 369 | 509 | 140 | 72 | 212 |
| Guards & Doorkeepers | 156 | 224 | 68 | 10 | 78 |
| Food Service Workers (Exc. Cashiers) | 305 | 440 | 135 | 60 | 195 |
| Supervisors, Nonworking-Service | 24 | 30 | 6 | 3 | 9 |
| All Other Service Workers | 97 | 137 | 40 | 21 | 61 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 36,960 | 46,700 | 9,740 | 3,801 | 13,541 |
| Mechanics, Automotive | 363 | 505 | 142 | 32 | 174 |
| Mechanics, Diesel | 103 | 145 | 42 | 10 | 52 |
| Mechanics, Engineering-Equipment | 166 | 232 | 66 | 15 | 81 |
| Mechanics, Maintenance | 313 | 384 | 71 | 30 | 101 |
| Mechanics, Refrigeration/Air Conditioning | 928 | 1,061 | 133 | 86 | 219 |
| All Other Mechanics & Repairers | 35 | 42 | 7 | 3 | 10 |
| Truck Drivers | 1,010 | 1,351 | 341 | 79 | 420 |
| Air-Hammer Operators | 17 | 24 | 7 | 2 | 9 |
| Asbestos & Insulation Workers | 416 | 473 | 57 | 18 | 75 |
| Boilermakers | 130 | 180 | 50 | 17 | 67 |
| Bricklayers | 1,067 | 1,237 | 170 | 88 | 258 |
| Cabinetmakers | 70 | 89 | 19 | 6 | 25 |
| Carpet Cutters &/or Layers | 169 | 192 | 23 | 9 | 32 |
| Carpenters | 4,269 | 5,671 | 1,402 | 573 | 1,975 |
| Cement Masons | 1,278 | 1,594 | 316 | 93 | 409 |
| Concrete-Mixer Operators | 53 | 60 | 7 | 7 | 14 |
| Concrete-Wall Grinder Operators | 6 | 7 | 1 | 0 | 1 |
| Concrete Rubbers | 38 | 43 | 5 | 3 | 8 |
| Crane, Derrick & Hoist Operators | 65 | 86 | 21 | 7 | 28 |
| Delivery & Route Workers | 27 | 35 | 8 | 2 | 10 |
| Drillers, Machine | 13 | 15 | 2 | 2 | 4 |
| Dry-Wall Applicators | 722 | 822 | 100 | 36 | 136 |
| Electricians | 3,982 | 5,095 | 1,113 | 404 | 1,517 |
| Fence Erectors | 206 | 234 | 28 | 24 | 52 |
| Floor Sanding Machine Operators | 16 | 18 | 2 | 1 | 3 |
| Supervisors, Nonworking | 1,022 | 1,346 | 324 | 120 | 444 |
| Form Setters, Metal Road-Form | 151 | 172 | 21 | 14 | 35 |
| Glaziers | 268 | 305 | 37 | 26 | 63 |
| Heavy Equipment Operators | 1,806 | 2,510 | 704 | 168 | 872 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MARICOPA COUNTY (CONTD.)

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| Riggers | 7 | 8 | 1 | 1 | 2 |
| Industrial Truck Operators | 22 | 31 | 9 | 2 | 11 |
| Lathers | 281 | 319 | 38 | 20 | 58 |
| Maintenance Repairers, General Utility | 69 | 95 | 26 | 7 | 33 |
| Metal Fabricators | 155 | 178 | 23 | 12 | 35 |
| Millwrights | 210 | 286 | 76 | 29 | 105 |
| Oilers | 85 | 123 | 38 | 11 | 49 |
| Painters, Maintenance | 1,268 | 1,488 | 220 | 162 | 382 |
| Paperhangers | 28 | 32 | 4 | 2 | 6 |
| Pipelayers | 402 | 578 | 176 | 49 | 225 |
| Plasterers | 477 | 542 | 65 | 27 | 92 |
| Plumbers &/or Pipefitters | 2,645 | 3,347 | 702 | 278 | 980 |
| Reinforcing-Iron Workers | 303 | 396 | 93 | 36 | 129 |
| Roofers | 820 | 935 | 115 | 43 | 158 |
| Sheet Metal Workers | 1,123 | 1,278 | 155 | 79 | 234 |
| Stone Masons | 57 | 65 | 8 | 5 | 13 |
| Layout Workers, Structural Steel | 27 | 31 | 4 | 2 | 6 |
| Structural-Steel Workers | 535 | 692 | 157 | 43 | 200 |
| Tapers | 599 | 682 | 83 | 69 | 152 |
| Tile Setters | 268 | 304 | 36 | 22 | 58 |
| Welders & Flamecutters | 999 | 1,413 | 414 | 123 | 537 |
| Asphalt-Mixing-Machine Tenders | 23 | 32 | 9 | 3 | 12 |
| Asphalt-Plant Operators | 33 | 46 | 13 | 4 | 17 |
| Asphalt Rakers | 169 | 226 | 57 | 20 | 77 |
| Mixers, Stone, Clay & Related Products | 16 | 18 | 2 | 1 | 3 |
| Ceiling Tile Installers &/or Floor Layers | 108 | 123 | 15 | 6 | 21 |
| Asbestos & Insulation Worker Helpers | 20 | 26 | 6 | 2 | 8 |
| Bricklayer Helpers | 619 | 707 | 88 | 71 | 159 |
| Carpenter Helpers | 411 | 555 | 144 | 40 | 184 |
| Cement Mason Helpers | 291 | 349 | 58 | 34 | 92 |
| Electrician Helpers | 441 | 501 | 60 | 50 | 110 |
| Painter Helpers | 77 | 92 | 15 | 9 | 24 |
| Plasterer Helpers | 132 | 150 | 18 | 15 | 33 |
| Plumber &/or Pipefitter Helpers | 446 | 525 | 79 | 52 | 131 |
| Roofer Helpers | 95 | 109 | 14 | 11 | 25 |
| Stone Mason Helpers | 64 | 73 | 9 | 7 | 16 |
| Tile Setter Helpers | 118 | 134 | 16 | 13 | 29 |
| Cabinet Helpers | 9 | 12 | 3 | 4 | 7 |
| All Other Helpers, Skilled Crafts | 28 | 38 | 10 | 3 | 13 |
| All Other Skilled Craft Workers | 383 | 500 | 117 | 34 | 151 |
| All Other Operatives & Semiskilled Workers | 940 | 1,206 | 266 | 114 | 380 |
| All Other Laborers & Unskilled Workers | 3,448 | 4,527 | 1,079 | 411 | 1,490 |
| TOTAL CLERICAL WORKERS | 4,532 | 5,831 | 1,299 | 982 | 2,281 |
| Bookkeeping &/or Billing Machine Operators | 26 | 30 | 4 | 5 | 9 |
| Computer Operators | 43 | 60 | 17 | 5 | 22 |
| Keypunch Operators | 24 | 34 | 10 | 6 | 16 |
| All Other Office Machine Operators | 1 | 1 | 0 | 0 | 0 |
| Accounting Clerks | 302 | 401 | 99 | 63 | 162 |
| Bookkeepers, Hand | 711 | 888 | 177 | 145 | 322 |
| Cashiers | 47 | 60 | 13 | 10 | 23 |
| File Clerks | 44 | 63 | 19 | 13 | 32 |
| General Clerks, Office | 937 | 1,175 | 238 | 211 | 449 |
| Mail Clerks | 28 | 40 | 12 | 5 | 17 |
| Order Clerks | 14 | 18 | 4 | 3 | 7 |
| Payroll &/or Timekeeping Clerks | 225 | 295 | 70 | 43 | 113 |
| Personnel Clerks | 13 | 19 | 6 | 4 | 10 |
| Procurement Clerks | 11 | 15 | 4 | 1 | 5 |
| Receptionists | 105 | 150 | 45 | 30 | 75 |
| Secretaries | 1,293 | 1,691 | 398 | 313 | 711 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MARICOPA COUNTY (CONTD.)

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| Switchboard Operators | 20 | 27 | 7 | 6 | 13 |
| Switchboard Operators-Receptionists | 45 | 62 | 17 | 13 | 30 |
| Typists | 164 | 217 | 53 | 45 | 98 |
| Clerical Supervisors | 22 | 31 | 9 | 3 | 12 |
| All Other Office Clerical Workers | 41 | 55 | 14 | 9 | 23 |
| Production Clerks &/or Coordinators | 32 | 39 | 7 | 4 | 11 |
| Shipping &/or Receiving Clerks | 23 | 32 | 9 | 2 | 11 |
| Stock Clerks | 312 | 364 | 52 | 36 | 88 |
| Dispatchers | 37 | 46 | 9 | 4 | 13 |
| All Other Plant Clerical Workers | 12 | 18 | 6 | 3 | 9 |
| TOTAL SALES WORKERS | 1,046 | 1,310 | 270 | 196 | 466 |
| Sales Reps., Agents & Associates -Real Estate | 409 | 566 | 157 | 94 | 251 |
| All Other Sales Reps., Agents & Associates | 520 | 611 | 91 | 87 | 178 |
| Sales Clerks | 111 | 133 | 22 | 15 | 37 |
| TOTAL ALL OCCUPATIONS | 51,649 | 65,892 | 14,242 | 6,361 | 20,603 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL WORKERS

All Other Engineers
Nuclear Engineers

TECHNICAL WORKERS

All Other Engineering Technicians
Civil Engineering Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Skilled Craft Workers
Line Installers - Repairers
Machinists
Terrazo Workers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Operatives & Semiskilled Workers
Asphalt-Heater Tenders
Blasters
Blueprint Machine Operators
Furnace Installers & Repairers, Hot Air
Inspectors
Surveyor Helpers
Asphalt-Plant Drier Operators

CLERICAL WORKERS

All Other Plant Clerical Workers
Weighers, Record Keeping

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MOHAVE COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 149 | 207 | 58 | 23 | 81 |
| TOTAL PROFESSIONAL WORKERS | 15 | 20 | 5 | 3 | 8 |
| All Engineers | 3 | 3 | 0 | 0 | 0 |
| Accountants & Auditors | 5 | 7 | 2 | 1 | 3 |
| Cost Estimators | 7 | 10 | 3 | 2 | 5 |
| TOTAL TECHNICAL WORKERS | 3 | 3 | 0 | 0 | 0 |
| All Engineering Technicians | 3 | 3 | 0 | 0 | 0 |
| TOTAL SERVICE WORKERS | 6 | 8 | 2 | 1 | 3 |
| Janitors, Porters & Cleaners | 5 | 7 | 2 | 1 | 3 |
| All Other Service Workers | 1 | 1 | 0 | 0 | 0 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 838 | 1,193 | 355 | 83 | 438 |
| Mechanics, Automotive | 4 | 7 | 3 | 0 | 3 |
| Mechanics, Refrigeration/Air Conditioning | 30 | 38 | 8 | 3 | 11 |
| All Other Mechanics & Repairers | 10 | 17 | 7 | 1 | 8 |
| Truck Drivers | 77 | 130 | 53 | 6 | 59 |
| Asbestos & Insulation Workers | 14 | 17 | 3 | 1 | 4 |
| Bricklayers | 12 | 16 | 4 | 1 | 5 |
| Carpenters | 100 | 142 | 42 | 14 | 56 |
| Cement Masons | 45 | 59 | 14 | 3 | 17 |
| Crane, Derrick & Hoist Operators | 15 | 24 | 9 | 2 | 11 |
| Dry-Wall Applicators | 22 | 28 | 6 | 1 | 7 |
| Electricians | 17 | 22 | 5 | 2 | 7 |
| Supervisors, Nonworking | 16 | 24 | 8 | 2 | 10 |
| Heavy Equipment Operators | 83 | 132 | 49 | 8 | 57 |
| Lathers | 7 | 9 | 2 | 1 | 3 |
| Painters, Maintenance | 25 | 33 | 8 | 3 | 11 |
| Plasterers | 32 | 40 | 8 | 2 | 10 |
| Plumbers &/or Pipefitters | 63 | 87 | 24 | 7 | 31 |
| Roofers | 22 | 28 | 6 | 1 | 7 |
| Sheet Metal Workers | 23 | 29 | 6 | 2 | 8 |
| Tapers | 11 | 14 | 3 | 1 | 4 |
| Carpenter Helpers | 5 | 7 | 2 | 0 | 2 |
| Cement Mason Helpers | 14 | 19 | 5 | 2 | 7 |
| Electrician Helpers | 4 | 5 | 1 | 0 | 1 |
| Plasterer Helpers | 6 | 7 | 1 | 1 | 2 |
| All Other Helpers, Skilled Trades | 10 | 14 | 4 | 0 | 4 |
| All Other Skilled Craft Workers | 42 | 61 | 19 | 4 | 23 |
| All Other Operatives & Semiskilled Workers | 69 | 105 | 36 | 8 | 44 |
| All Other Laborers & Unskilled Workers | 60 | 79 | 19 | 7 | 26 |
| TOTAL CLERICAL WORKERS | 105 | 146 | 41 | 23 | 64 |
| Bookkeepers, Hand | 24 | 32 | 8 | 5 | 13 |
| General Clerks, Office | 34 | 47 | 13 | 8 | 21 |
| Payroll &/or Timekeeping Clerks | 5 | 7 | 2 | 1 | 3 |
| Secretaries | 30 | 41 | 11 | 7 | 18 |
| All Other Office Clerical Workers | 9 | 16 | 7 | 2 | 9 |
| All Plant Clerical Workers | 3 | 3 | 0 | 0 | 0 |
| TOTAL SALES WORKERS | 18 | 25 | 7 | 4 | 11 |
| Sales Reps., Agents & Associates-Real Estate | 12 | 17 | 5 | 3 | 8 |
| All Other Sales Reps., Agents & Associates | 5 | 6 | 1 | 1 | 2 |
| All Other Sales Workers | 1 | 2 | 1 | 0 | 1 |
| TOTAL ALL OCCUPATIONS | 1,134 | 1,602 | 468 | 137 | 605 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MOHAVE COUNTY (CONTD.)

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
- Mechanics, Diesel
- Mechanics, Engineering-Equipment
- Mechanics, Maintenance

All Other Helpers, Skilled Trades
- Bricklayer Helpers
- Plumber &/or Pipefitter Helpers
- Roofer Helpers

All Other Skilled Craft Workers
- Cabinetmakers
- Glaziers
- Riggers
- Line Installers-Repairers
- Metal Fabricators (Exc. Sheet Metal)
- Tile Setters
- Welders & Flamecutters
- Asphalt-Plant Operators

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Operatives & Semiskilled Workers
- Carpet Cutters &/or Layers
- Fence Erectors
- Pipelayers
- Surveyor Helpers
- Asphalt-Mixing-Machine Tenders
- Asphalt-Plant Drier Operators
- Asphalt Rakers

CLERICAL WORKERS

All Other Office Clerical Workers
- Accounting Clerks
- Typists

All Other Plant Clerical Workers
- Production Clerks &/or Coordinators
- Shipping &/or Receiving Clerks
- Stock Clerks

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

NAVAJO COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 81 | 106 | 25 | 12 | 37 |
| TOTAL PROFESSIONAL WORKERS | 9 | 12 | 3 | 1 | 4 |
| All Engineers | 4 | 7 | 3 | 0 | 3 |
| Cost Estimators | 3 | 3 | 0 | 1 | 1 |
| All Other Professional Workers | 2 | 2 | 0 | 0 | 0 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 599 | 845 | 246 | 62 | 308 |
| Mechanics, Automotive | 9 | 14 | 5 | 1 | 6 |
| Mechanics, Maintenance | 8 | 9 | 1 | 1 | 2 |
| All Other Mechanics & Repairers | 10 | 15 | 5 | 1 | 6 |
| Truck Drivers | 75 | 111 | 36 | 6 | 42 |
| Carpenters | 55 | 66 | 11 | 7 | 18 |
| Cement Masons | 38 | 43 | 5 | 3 | 8 |
| Electricians | 29 | 40 | 11 | 3 | 14 |
| Supervisors, Nonworking | 14 | 21 | 7 | 2 | 9 |
| Heavy Equipment Operators | 34 | 52 | 18 | 3 | 21 |
| Carpenter Helpers | 13 | 16 | 3 | 1 | 4 |
| Cement Mason Helpers | 19 | 22 | 3 | 2 | 5 |
| All Other Helpers, Skilled Trades | 7 | 8 | 1 | 0 | 1 |
| All Other Skilled Craft Workers | 68 | 99 | 31 | 6 | 37 |
| All Other Operatives & Semiskilled Workers | 67 | 97 | 30 | 7 | 37 |
| All Other Laborers & Unskilled Workers | 153 | 232 | 79 | 19 | 98 |
| TOTAL CLERICAL WORKERS | 37 | 48 | 11 | 9 | 20 |
| Bookkeepers, Hand | 5 | 6 | 1 | 1 | 2 |
| General Clerks, Office | 17 | 23 | 6 | 4 | 10 |
| Secretaries | 10 | 12 | 2 | 2 | 4 |
| All Other Office Clerical Workers | 5 | 7 | 2 | 2 | 4 |
| TOTAL SALES WORKERS | 4 | 4 | 0 | 0 | 0 |
| All Sales Reps., Agents & Associates | 4 | 4 | 0 | 0 | 0 |
| TOTAL ALL OCCUPATIONS | 730 | 1,015 | 285 | 84 | 369 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
- Mechanics, Diesel
- Mechanics, Engineering-Equipment
- Mechanics, Refrigeration/Air Conditioning

All Other Helpers, Skilled Trades
- Bricklayer Helpers
- Electrician Helpers
- Plumber &/or Pipefitter Helpers

All Other Skilled Craft Workers
- Bricklayers
- Glaziers
- Plumbers &/or Pipefitters
- Sheet Metal Workers
- Asphalt-Plant Operators

All Other Operatives & Semiskilled Workers
- Asbestos & Insulation Workers
- Blasters
- Inspectors

MAINTENANCE & PRODUCTION WORKERS (CONTD.)
- Pipelayers
- Roofers
- Welders & Flamecutters
- Asphalt-Plant Drier Operators

All Other Laborers & Unskilled Workers
- Air-Hammer Operators

CLERICAL WORKERS

All Other Office Clerical Workers
- Payroll &/or Timekeeping Clerks
- Typists

SALES WORKERS

All Other Sales Reps., Agents & Associates
- Sales Reps., Agents & Associates-Real Estate

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PIMA COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 1,551 | 1,939 | 388 | 231 | 619 |
| TOTAL PROFESSIONAL WORKERS | 410 | 500 | 90 | 78 | 168 |
| Civil Engineers | 29 | 30 | 1 | 4 | 5 |
| Electrical & Electronic Engineers | 4 | 5 | 1 | 0 | 1 |
| Mechanical Engineers | 15 | 18 | 3 | 1 | 4 |
| All Other Engineers | 1 | 1 | 0 | 0 | 0 |
| Purchasing Agents &/or Buyers | 28 | 33 | 5 | 4 | 9 |
| Accountants & Auditors | 67 | 82 | 15 | 10 | 25 |
| Cost Estimators | 257 | 321 | 64 | 58 | 122 |
| All Other Professional Workers | 9 | 10 | 1 | 1 | 2 |
| TOTAL TECHNICAL WORKERS | 114 | 136 | 22 | 8 | 30 |
| Computer Programmers | 5 | 5 | 0 | 0 | 0 |
| Drafters | 53 | 63 | 10 | 4 | 14 |
| Electrical & Electronic Technicians | 21 | 29 | 8 | 1 | 9 |
| All Other Engineering Technicians | 32 | 35 | 3 | 3 | 6 |
| All Other Technicians | 3 | 4 | 1 | 0 | 1 |
| TOTAL SERVICE WORKERS | 107 | 128 | 21 | 19 | 40 |
| Janitors, Porters & Cleaners | 84 | 104 | 20 | 16 | 36 |
| Guards & Doorkeepers | 7 | 7 | 0 | 0 | 0 |
| All Other Service Workers | 16 | 17 | 1 | 3 | 4 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 10,335 | 12,930 | 2,603 | 1,043 | 3,646 |
| Mechanics, Automotive | 82 | 84 | 2 | 7 | 9 |
| Mechanics, Diesel | 9 | 11 | 2 | 1 | 3 |
| Mechanics, Engineering-Equipment | 86 | 82 | 0 | 7 | 7 |
| Mechanics, Maintenance | 54 | 69 | 15 | 5 | 20 |
| Mechanics, Refrigeration/Air Conditioning | 191 | 263 | 72 | 19 | 91 |
| All Other Mechanics & Repairers | 1 | 1 | 0 | 0 | 0 |
| Truck Drivers | 384 | 407 | 23 | 28 | 51 |
| Air-Hammer Operators | 21 | 22 | 1 | 3 | 4 |
| Asbestos & Insulation Workers | 39 | 54 | 15 | 2 | 17 |
| Bricklayers | 351 | 468 | 117 | 30 | 147 |
| Cabinetmakers | 45 | 52 | 7 | 4 | 11 |
| Carpet Cutters &/or Layers | 27 | 37 | 10 | 1 | 11 |
| Carpenters | 1,076 | 1,302 | 226 | 141 | 367 |
| Cement Masons | 492 | 619 | 127 | 36 | 163 |
| Concrete-Mixer Operators | 27 | 35 | 8 | 4 | 12 |
| Concrete Rubbers | 20 | 28 | 8 | 2 | 10 |
| Crane, Derrick & Hoist Operators | 17 | 17 | 0 | 2 | 2 |
| Delivery & Route Workers | 20 | 23 | 3 | 1 | 4 |
| Drillers, Machine | 16 | 22 | 6 | 2 | 8 |
| Dry-Wall Applicators | 207 | 285 | 78 | 11 | 89 |
| Electricians | 579 | 790 | 211 | 60 | 271 |
| Fence Erectors | 70 | 97 | 27 | 8 | 35 |
| Supervisors, Nonworking | 347 | 412 | 65 | 40 | 105 |
| Form Setters, Road-Form | 68 | 94 | 26 | 7 | 33 |
| Glaziers | 70 | 97 | 27 | 7 | 34 |
| Heavy Equipment Operators | 603 | 615 | 12 | 51 | 63 |
| Industrial Truck Operators | 10 | 9 | 0 | 1 | 1 |
| Lathers | 101 | 139 | 38 | 8 | 46 |
| Line Installers-Repairers | 90 | 96 | 6 | 5 | 11 |
| Maintenance Repairers, General Utility | 35 | 41 | 6 | 3 | 9 |
| Metal Fabricators | 75 | 103 | 28 | 6 | 34 |
| Painters, Maintenance | 325 | 437 | 112 | 43 | 155 |
| Paperhangers | 4 | 6 | 2 | 0 | 2 |
| Pipelayers | 66 | 63 | 0 | 7 | 7 |
| Plasterers | 125 | 172 | 47 | 7 | 54 |
| Plumbers &/or Pipefitters | 486 | 661 | 175 | 52 | 227 |
| Reinforcing-Iron Workers | 42 | 52 | 10 | 5 | 15 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PIMA COUNTY (CONTD.)

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| Roofers | 275 | 378 | 103 | 15 | 118 |
| Sheet Metal Workers | 372 | 508 | 136 | 28 | 164 |
| Stone Masons | 57 | 79 | 22 | 5 | 27 |
| Layout Workers, Structural-Steel | 22 | 30 | 8 | 2 | 10 |
| Structural-Steel Workers | 84 | 107 | 23 | 7 | 30 |
| Tapers | 323 | 444 | 121 | 39 | 160 |
| Tile Setters | 88 | 121 | 33 | 8 | 41 |
| Welders & Flamecutters | 61 | 69 | 8 | 7 | 15 |
| Asphalt Plant Operators | 11 | 14 | 3 | 1 | 4 |
| Asphalt Rakers | 43 | 45 | 2 | 5 | 7 |
| Mixers, Stone, Clay, Glass & Related Products | 17 | 23 | 6 | 1 | 7 |
| Ceiling Tile Installers &/or Floor Layers | 61 | 84 | 23 | 4 | 27 |
| Bricklayer Helpers | 142 | 191 | 49 | 17 | 66 |
| Carpenter Helpers | 220 | 261 | 41 | 21 | 62 |
| Cement Mason Helpers | 117 | 150 | 33 | 14 | 47 |
| Electrician Helpers | 202 | 277 | 75 | 24 | 99 |
| Painter Helpers | 20 | 28 | 8 | 2 | 10 |
| Plasterer Helpers | 30 | 41 | 11 | 4 | 15 |
| Plumber &/or Pipefitter Helpers | 93 | 123 | 30 | 11 | 41 |
| Roofer Helpers | 75 | 101 | 26 | 9 | 35 |
| Stone Mason Helpers | 12 | 17 | 5 | 1 | 6 |
| Tile Setter Helpers | 31 | 43 | 12 | 4 | 16 |
| All Other Helpers, Skilled Trades | 44 | 48 | 4 | 5 | 9 |
| All Other Skilled Craft Workers | 39 | 51 | 12 | 4 | 16 |
| All Other Operatives & Semiskilled Workers | 172 | 207 | 35 | 20 | 55 |
| All Other Laborers & Unskilled Workers | 1,463 | 1,725 | 262 | 169 | 431 |
| TOTAL CLERICAL WORKERS | 1,260 | 1,554 | 294 | 264 | 558 |
| Computer Operators | 24 | 24 | 0 | 3 | 3 |
| Keypunch Operators | 5 | 5 | 0 | 1 | 1 |
| All Other Office Machine Operators | 1 | 1 | 0 | 0 | 0 |
| Accounting Clerks | 65 | 75 | 10 | 13 | 23 |
| Bookkeepers, Hand | 243 | 308 | 65 | 50 | 115 |
| File Clerks | 10 | 11 | 1 | 3 | 4 |
| General Clerks, Office | 271 | 346 | 75 | 61 | 136 |
| Payroll &/or Timekeeping Clerks | 61 | 72 | 11 | 11 | 22 |
| Procurement Clerks | 4 | 5 | 1 | 0 | 1 |
| Receptionists | 13 | 16 | 3 | 4 | 7 |
| Secretaries | 357 | 449 | 92 | 85 | 177 |
| Switchboard Operators-Receptionists | 15 | 16 | 1 | 4 | 5 |
| Typists | 27 | 32 | 5 | 7 | 12 |
| Clerical Supervisors | 8 | 8 | 0 | 1 | 1 |
| All Other Office Clerical Workers | 26 | 28 | 2 | 6 | 8 |
| Production Clerks &/or Coordinators | 25 | 27 | 2 | 3 | 5 |
| Shipping &/or Receiving Clerks | 10 | 11 | 1 | 1 | 2 |
| Stock Clerks | 78 | 101 | 23 | 9 | 32 |
| Dispatchers | 8 | 9 | 1 | 1 | 2 |
| All Other Plant Clerical Workers | 9 | 10 | 1 | 1 | 2 |
| SALES WORKERS | 302 | 393 | 91 | 57 | 148 |
| Sales Reps., Agents & Associates-Real Estate | 99 | 117 | 18 | 22 | 40 |
| All Other Sales Reps., Agents & Associates | 186 | 253 | 67 | 33 | 100 |
| Sales Clerks (Exc. Cashiers) | 17 | 23 | 6 | 2 | 8 |
| TOTAL ALL OCCUPATIONS | 14,079 | 17,580 | 3,509 | 1,700 | 5,209 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PIMA COUNTY (CONTD.)

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Systems Analysts, EDP
Personnel & Labor Relations Specialists

SERVICE WORKERS

All Other Service Workers
Food Service Workers (Exc. Cashiers)
Supervisors, Nonworking-Service

CLERICAL WORKERS

All Other Office Clerical Workers
Cashiers
Mail Clerks
Order Clerks
Personnel Clerks
Switchboard Operators

All Other Plant Clerical Workers
Weighers, Record Keeping

TECHNICAL WORKERS

All Other Engineering Technicians
Surveyors
Mechanical Engineering Technicians
Civil Engineering Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Skilled Craft Workers
Furnace Installers & Repairers
Machinists
Millwrights
Terrazzo Workers

All Other Operatives & Semiskilled Workers
Asphalt-Heater Tenders
Floor Sanding Machine Operators
Inspectors
Surveyor Helpers
Asphalt-Mixing-Machine Tenders
Asphalt-Plant Drier Operators

All Other Laborers & Unskilled Workers
Oilers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PINAL COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 85 | 105 | 20 | 13 | 33 |
| TOTAL PROFESSIONAL WORKERS | 16 | 19 | 3 | 3 | 6 |
| Cost Estimators | 7 | 8 | 1 | 2 | 3 |
| All Other Professional Workers | 9 | 11 | 2 | 1 | 3 |
| TOTAL TECHNICAL WORKERS | 5 | 6 | 1 | 0 | 1 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 324 | 392 | 68 | 33 | 101 |
| Mechanics, Refrigeration/Air Conditioning | 7 | 8 | 1 | 1 | 2 |
| Carpenters | 103 | 128 | 25 | 14 | 39 |
| Cement Masons | 15 | 18 | 3 | 1 | 4 |
| Electricians | 14 | 16 | 2 | 1 | 3 |
| Heavy Equipment Operators | 14 | 21 | 7 | 1 | 8 |
| Plumbers &/or Pipefitters | 13 | 15 | 2 | 1 | 3 |
| Sheet Metal Workers | 17 | 19 | 2 | 1 | 3 |
| Electrician Helpers | 4 | 5 | 1 | 0 | 1 |
| Plumber &/or Pipefitter Helpers | 6 | 7 | 1 | 1 | 2 |
| All Other Helpers, Skilled Trades | 12 | 14 | 2 | 1 | 3 |
| All Other Skilled Craft Workers | 16 | 19 | 3 | 0 | 3 |
| All Other Operatives & Semiskilled Workers | 33 | 39 | 6 | 2 | 8 |
| All Other Laborers & Unskilled Workers | 70 | 83 | 13 | 9 | 22 |
| TOTAL CLERICAL WORKERS | 42 | 52 | 10 | 9 | 19 |
| Bookkeepers, Hand | 7 | 8 | 1 | 1 | 2 |
| General Clerks, Office | 8 | 10 | 2 | 2 | 4 |
| Secretaries | 27 | 34 | 7 | 6 | 13 |
| TOTAL SALES WORKERS | 2 | 3 | 1 | 0 | 1 |
| TOTAL ALL OCCUPATIONS | 474 | 577 | 103 | 58 | 161 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Helpers, Skilled Trades
- Cement Mason Helpers
- Painter Helpers
- Plasterer Helpers

All Other Skilled Craft Workers
- Mechanics, Automotive
- Mechanics, Maintenance
- Drillers, Machine
- Glaziers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Operatives & Semiskilled Workers
- Truck Drivers
- Dry-Wall Applicators
- Fence Erectors
- Pipelayers
- Roofers
- Tapers

All Other Laborers & Unskilled Workers
- Air-Hammer Operators
- Painters, Maintenance

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

SANTA CRUZ COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 27 | 32 | 5 | 4 | 9 |
| TOTAL PROFESSIONAL WORKERS | 2 | 2 | 0 | 0 | 0 |
| TOTAL TECHNICAL WORKERS | 3 | 4 | 1 | 0 | 1 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 201 | 237 | 36 | 19 | 55 |
| Carpenters | 22 | 27 | 5 | 3 | 8 |
| Heavy Equipment Operators | 12 | 14 | 2 | 1 | 3 |
| Sheet Metal Workers | 9 | 10 | 1 | 1 | 2 |
| All Helpers, Skilled Trades | 28 | 32 | 4 | 2 | 6 |
| All Other Skilled Craft Workers | 49 | 57 | 8 | 4 | 12 |
| All Other Operatives & Semiskilled Workers | 21 | 24 | 3 | 1 | 4 |
| All Other Laborers & Unskilled Workers | 60 | 73 | 13 | 7 | 20 |
| TOTAL CLERICAL WORKERS | 19 | 22 | 3 | 4 | 7 |
| Bookkeepers, Hand | 7 | 8 | 1 | 1 | 2 |
| General Clerks, Office | 7 | 8 | 1 | 2 | 3 |
| All Other Office Clerical Workers | 5 | 6 | 1 | 1 | 2 |
| TOTAL ALL OCCUPATIONS | 252 | 297 | 45 | 27 | 72 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Helpers, Skilled Trades
- Carpenter Helpers
- Cement Mason Helpers
- Cabinetmaker Helpers

All Other Skilled Craft Workers
- Mechanics, Refrigeration/Air Conditioning
- Cabinetmakers
- Cement Masons
- Electricians
- Supervisors, Nonworking
- Glaziers
- Plumbers &/or Pipefitters

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Operatives & Semiskilled Workers
- Roofers

All Other Laborers & Unskilled Workers
- Painters, Maintenance

CLERICAL WORKERS

All Other Office Clerical Workers
- Secretaries

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YAVAPAI COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 126 | 158 | 32 | 19 | 51 |
| TOTAL PROFESSIONAL WORKERS | 13 | 15 | 2 | 3 | 5 |
| Accountants & Auditors | 4 | 5 | 1 | 1 | 2 |
| Cost Estimators | 8 | 9 | 1 | 2 | 3 |
| All Other Professional Workers | 1 | 1 | 0 | 0 | 0 |
| TOTAL TECHNICAL WORKERS | 3 | 4 | 1 | 0 | 1 |
| TOTAL SERVICE WORKERS | 4 | 5 | 1 | 1 | 2 |
| Janitors, Porters & Cleaners | 4 | 5 | 1 | 1 | 2 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 1,036 | 1,285 | 249 | 104 | 353 |
| Mechanics, Refrigeration/Air Conditioning | 10 | 11 | 1 | 1 | 2 |
| All Other Mechanics & Repairers | 14 | 18 | 4 | 0 | 4 |
| Truck Drivers | 42 | 60 | 18 | 3 | 21 |
| Bricklayers | 37 | 43 | 6 | 3 | 9 |
| Carpenters | 169 | 209 | 40 | 22 | 62 |
| Cement Masons | 37 | 43 | 6 | 3 | 9 |
| Drillers, Machine | 4 | 5 | 1 | 1 | 2 |
| Dry-Wall Applicators | 35 | 41 | 6 | 2 | 8 |
| Electricians | 56 | 65 | 9 | 6 | 15 |
| Supervisors, Nonworking | 42 | 58 | 16 | 5 | 21 |
| Glaziers | 14 | 16 | 2 | 1 | 3 |
| Heavy Equipment Operators | 99 | 142 | 43 | 9 | 52 |
| Painters, Maintenance | 19 | 22 | 3 | 2 | 5 |
| Plumbers &/or Pipefitters | 38 | 44 | 6 | 4 | 10 |
| Roofers | 24 | 28 | 4 | 1 | 5 |
| Sheet Metal Workers | 38 | 44 | 6 | 3 | 9 |
| Tapers | 30 | 35 | 5 | 3 | 8 |
| Bricklayers | 21 | 24 | 3 | 2 | 5 |
| Carpenter Helpers | 36 | 44 | 8 | 3 | 11 |
| Cement Mason Helpers | 26 | 30 | 4 | 3 | 7 |
| Plumber &/or Pipefitter Helpers | 14 | 16 | 2 | 2 | 4 |
| All Other Helpers, Skilled Trades | 29 | 33 | 4 | 2 | 6 |
| All Other Skilled Craft Workers | 37 | 42 | 5 | 3 | 8 |
| All Other Operatives & Semiskilled Workers | 26 | 29 | 3 | 3 | 6 |
| All Other Laborers & Unskilled Workers | 139 | 183 | 44 | 17 | 61 |
| TOTAL CLERICAL WORKERS | 102 | 125 | 23 | 23 | 46 |
| All Office Machine Operators | 1 | 1 | 0 | 0 | 0 |
| Accounting Clerks | 5 | 6 | 1 | 1 | 2 |
| Bookkeepers, Hand | 19 | 22 | 3 | 4 | 7 |
| General Clerks, Office | 23 | 28 | 5 | 5 | 10 |
| Payroll &/or Timekeeping Clerks | 3 | 4 | 1 | 1 | 2 |
| Secretaries | 47 | 60 | 13 | 11 | 24 |
| All Other Office Clerical Workers | 2 | 2 | 0 | 1 | 1 |
| All Plant Clerical Workers | 2 | 2 | 0 | 0 | 0 |
| TOTAL SALES WORKERS | 7 | 8 | 1 | 1 | 2 |
| TOTAL ALL OCCUPATIONS | 1,291 | 1,600 | 309 | 151 | 460 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YAVAPAI COUNTY

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
- Mechanics, Automotive
- Mechanics, Diesel
- Mechanics, Maintenance

All Other Skilled Craft Workers
- Cabinetmakers
- Furnace Installers & Repairers
- Lathers
- Plasterers
- Stone Masons
- Tile Setters
- Welders & Flamecutters
- Terrazzo Workers

All Other Operatives & Semiskilled Workers
- Asbestos & Insulation Workers
- Crane, Derrick & Hoist Operators
- Pipelayers
- Asphalt Rakers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Helpers, Skilled Trades
- Asbestos & Insulation Worker Helpers
- Electrician Helpers
- Painter Helpers
- Plasterer Helpers
- Roofer Helpers
- Tile Setter Helpers
- Cabinetmaker Helpers
- Terrazzo Worker Helpers

SALES WORKERS

- Sales Reps., Agents & Associates-Real Estate
- All Other Sales Reps., Agents & Associates

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YUMA COUNTY

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| TOTAL MANAGERS & OFFICERS | 168 | 205 | 37 | 25 | 62 |
| TOTAL PROFESSIONAL WORKERS | 53 | 67 | 14 | 9 | 23 |
| Civil Engineers | 10 | 13 | 3 | 1 | 4 |
| Purchasing Agents &/or Buyers | 5 | 7 | 2 | 1 | 3 |
| Accountants & Auditors | 8 | 11 | 3 | 1 | 4 |
| Cost Estimators | 28 | 34 | 6 | 6 | 12 |
| All Other Professional Workers | 2 | 2 | 0 | 0 | 0 |
| TOTAL TECHNICAL WORKERS | 27 | 36 | 9 | 2 | 11 |
| Drafters | 14 | 18 | 4 | 1 | 5 |
| All Other Engineering Technicians | 13 | 18 | 5 | 1 | 6 |
| TOTAL SERVICE WORKERS | 14 | 18 | 4 | 1 | 5 |
| Janitors, Porters & Cleaners | 7 | 8 | 1 | 1 | 2 |
| All Other Service Workers | 7 | 10 | 3 | 0 | 3 |
| TOTAL MAINTENANCE & PRODUCTION WORKERS | 2,092 | 2,694 | 602 | 215 | 817 |
| Mechanics, Maintenance | 23 | 26 | 3 | 2 | 5 |
| Mechanics, Refrigeration & Air Conditioning | 45 | 52 | 7 | 4 | 11 |
| All Other Mechanics & Repairers | 30 | 42 | 12 | 2 | 14 |
| Truck Drivers | 105 | 146 | 41 | 8 | 49 |
| Bricklayers | 17 | 19 | 2 | 1 | 3 |
| Carpenters | 230 | 284 | 54 | 30 | 84 |
| Cement Masons | 105 | 135 | 30 | 8 | 38 |
| Concrete-Mixer Operators | 19 | 24 | 5 | 3 | 8 |
| Dry-Wall Applicators | 15 | 18 | 3 | 1 | 4 |
| Electricians | 66 | 76 | 10 | 6 | 16 |
| Supervisors, Nonworking | 57 | 76 | 19 | 7 | 26 |
| Heavy Equipment Operators | 239 | 332 | 93 | 22 | 115 |
| Lathers | 12 | 14 | 2 | 1 | 3 |
| Machinists | 12 | 16 | 4 | 1 | 5 |
| Metal Fabricators | 8 | 9 | 1 | 1 | 2 |
| Painters, Maintenance | 53 | 65 | 12 | 7 | 19 |
| Plasterers | 38 | 45 | 7 | 2 | 9 |
| Plumbers &/or Pipefitters | 58 | 70 | 12 | 6 | 18 |
| Reinforcing-Iron Workers | 20 | 27 | 7 | 2 | 9 |
| Roofers | 37 | 43 | 6 | 2 | 8 |
| Sheet Metal Workers | 58 | 72 | 14 | 4 | 18 |
| Tapers | 14 | 16 | 2 | 2 | 4 |
| Tile Setters | 10 | 12 | 2 | 1 | 3 |
| Welders & Flamecutters | 51 | 67 | 16 | 6 | 22 |
| Bricklayer Helpers | 6 | 7 | 1 | 1 | 2 |
| Carpenter Helpers | 29 | 35 | 6 | 3 | 9 |
| Cement Mason Helpers | 31 | 40 | 9 | 4 | 13 |
| Plumber &/or Pipefitter Helpers | 28 | 37 | 9 | 3 | 12 |
| Roofer Helpers | 18 | 21 | 3 | 2 | 5 |
| All Other Helpers, Skilled Trades | 31 | 35 | 4 | 3 | 7 |
| All Other Skilled Craft Workers | 77 | 96 | 19 | 7 | 26 |
| All Other Operatives & Semiskilled Workers | 71 | 92 | 21 | 5 | 26 |
| All Other Laborers & Unskilled Workers | 479 | 645 | 166 | 58 | 224 |
| TOTAL CLERICAL WORKERS | 188 | 231 | 43 | 38 | 81 |
| All Office Machine Operators | 4 | 5 | 1 | 0 | 1 |
| Bookkeepers, Hand | 44 | 51 | 7 | 9 | 16 |
| General Clerks, Office | 46 | 56 | 10 | 10 | 20 |
| Payroll &/or Timekeeping Clerks | 9 | 12 | 3 | 2 | 5 |
| Secretaries | 47 | 56 | 9 | 11 | 20 |

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YUMA COUNTY (CONTD.)

| | Estimated 1981 Employment | Projected 1985 Employment | Job Openings Due to Growth 1981-1985 | Job Openings Due to Separations 1981-1985 | Total Job Openings 1981-1985 |
|---|---|---|---|---|---|
| All Other Office Clerical Workers | 12 | 15 | 3 | 3 | 6 |
| Stock Clerks | 22 | 30 | 8 | 3 | 11 |
| All Other Plant Clerical Workers | 4 | 6 | 2 | 0 | 2 |
| TOTAL SALES WORKERS | 50 | 61 | 11 | 10 | 21 |
| All Sales Reps., Agents & Associates | 38 | 46 | 8 | 8 | 16 |
| All Other Sales Workers | 12 | 15 | 3 | 2 | 5 |
| TOTAL ALL OCCUPATIONS | 2,592 | 3,312 | 720 | 300 | 1,020 |

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

TECHNICAL WORKERS

All Other Engineering Technicians
Surveyors

SERVICE WORKERS

All Other Service Workers
Guards & Doorkeepers

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Mechanics, Automotive
Mechanics, Diesel
Mechanics, Engineering-Equipment

All Other Helpers, Skilled Trades
Asbestos & Insulation Worker Helpers
Electrician Helpers
Painter Helpers
Paperhanger Helpers
Plasterer Helpers
Tile Setter Helpers

All Other Skilled Craft Workers
Cabinetmakers
Concrete Rubbers
Conduit Mechanics
Drillers, Machine
Glaziers
Maintenance Repairers, General Utility
Millwrights
Paper Hangers
Stone Masons
Layout Workers, Structural-Steel
Structural-Steel Workers
Ceiling Tile Installers

MAINTENANCE & PRODUCTION WORKERS (CONTD.)

All Other Operatives & Semiskilled Workers
Asbestos & Insulation Workers
Asphalt-Heater Tenders
Concrete-Wall Grinder Operators
Crane, Derrick & Hoist Operators
Fence Erectors
Form Setters, Metal-Road Form
Industrial Truck Operators
Pipelayers
Surveyor Helpers
Asphalt-Mixing Machine Tenders
Asphalt Rakers

All Other Laborers & Unskilled Workers
Oilers

CLERICAL WORKERS

All Other Office Clerical Workers
Accounting Clerks
File Clerks
Procurement Clerks
Receptionists
Switchboard Operators-Receptionists
Typists

All Other Plant Clerical Workers
Stock Clerks

SALES WORKERS

All Sales Reps., Agents & Associates
Sales Reps., Agents & Associates-Real Estate

All Other Sales Workers
Sales Clerks (Exc. Cashiers)

# METHODOLOGY

## Limitations of the Data

The projection methods do not account for cyclical, seasonal, and such factors as the sudden opening and closing of large establishments. Caution is advised in the use of employment forecast data for industries with limited employment - especially in the smaller counties. The establishment or closing of a single firm could have a profound effect on a county's employment and demand.

The occupational data in this publication refer only to employees who earned a wage or salary. Self-employed and unpaid family workers are not represented in the statistics.

## Sample Selection and Response Rate

Occupational estimates for the construction industry were developed from a survey of employers throughout the state. Employers who were asked to participate in the survey were selected from a master employer file of firms doing business in Arizona, using standardized sampling techniques. A sample of establishments employing 4-99 employees and all establishments having 100 or more employees were surveyed. The entire sample was composed of 2,679 firms with a usable response rate of 82 percent. Firms responding accounted for 85 percent of the industry's employment.

## Employment Projections

Construction employment was projected using regression analysis and was adjusted to reflect recent industry developments. The 1985 occupational employment was calculated by applying staffing pattern ratios (as determined by the survey) to the industry projections.

## Job Openings

The difference between 1981 and 1985 employment for each occupation represents expected job openings due to growth. Job openings due to separation from the labor force were calculated by interpolating 1970 and 1985 separation rates for each occupation[1] and applying them to the occupational employment projections. "Total job openings" is the sum of openings due to growth and separations. These data do not include openings resulting from turnover, i.e., openings created when a worker changes jobs.

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1"Tomorrow's Manpower Needs," Supplement No. 4, BLS, 1974, pp. 11-16.